Gateway Cities
ITS Integration Plan for Goods Movement

Technical Memorandum No. 1
Inventory, Existing Conditions, and Needs Assessment

Prepared for:

in partnership with:

Prepared by:
Kimley-Horn and Associates, Inc.

August, 2008
# TABLE OF CONTENTS

Technical Memorandum No. 1  
Inventory, Existing Conditions and Needs Assessment

<table>
<thead>
<tr>
<th>Section</th>
<th>Pages</th>
</tr>
</thead>
<tbody>
<tr>
<td>TM1-SUMMARY</td>
<td>TM1-1</td>
</tr>
<tr>
<td>TM1.1 INTRODUCTION AND OVERVIEW</td>
<td>TM1-4</td>
</tr>
<tr>
<td>TM1.1.1 Definitions: ITS, Integration, and Architecture</td>
<td>TM1-4</td>
</tr>
<tr>
<td>TM1.1.2 Project Stakeholders</td>
<td>TM1-5</td>
</tr>
<tr>
<td>TM1.1.3 Objectives</td>
<td>TM1-6</td>
</tr>
<tr>
<td>TM1.2 REPORT CONTENTS, AUDIENCE, AND ORGANIZATION</td>
<td>TM1-7</td>
</tr>
<tr>
<td>TM1.2.1 Background</td>
<td>TM1-8</td>
</tr>
<tr>
<td>TM1.3 EXISTING CONDITIONS, SYSTEMS AND INVENTORY</td>
<td>TM1-10</td>
</tr>
<tr>
<td>TM1.3.1 Freeway Network and Infrastructure</td>
<td>TM1-10</td>
</tr>
<tr>
<td>TM1.3.2 Arterial Networks and Infrastructure</td>
<td>TM1-14</td>
</tr>
<tr>
<td>TM1.3.3 Port Infrastructure and Systems</td>
<td>TM1-18</td>
</tr>
<tr>
<td>TM1.3.3.1 On-site Port Traffic and Incident Management Systems</td>
<td>TM1-18</td>
</tr>
<tr>
<td>TM1.3.3.2 Port Logistics and Scheduling Systems</td>
<td>TM1-19</td>
</tr>
<tr>
<td>TM1.3.4 Data Exchange Systems and Regional Programs to Support Goods Movement</td>
<td>TM1-20</td>
</tr>
<tr>
<td>TM1.3.4.1 Regional Data Exchange Systems</td>
<td>TM1-20</td>
</tr>
<tr>
<td>TM1.3.4.2 Traveler Information Systems</td>
<td>TM1-22</td>
</tr>
<tr>
<td>TM1.3.4.3 Statewide Data and Traveler Information Initiatives</td>
<td>TM1-23</td>
</tr>
<tr>
<td>TM1.3.5 Private Sector Inventory/Information</td>
<td>TM1-24</td>
</tr>
<tr>
<td>TM1.3.5.1 Railroads</td>
<td>TM1-24</td>
</tr>
<tr>
<td>TM1.3.5.2 Trucking Companies and Warehouse Operations</td>
<td>TM1-24</td>
</tr>
<tr>
<td>TM1.4 GOODS MOVEMENT AND THE IMPACT ON THE REGION’S TRANSPORTATION NETWORK</td>
<td>TM1-25</td>
</tr>
<tr>
<td>TM1.4.1 Freight/Goods Movement Statistics and Background for Gateway Cities Subregion</td>
<td>TM1-25</td>
</tr>
<tr>
<td>TM1.4.2 Freight and Goods Movement Operational Issues</td>
<td>TM1-26</td>
</tr>
<tr>
<td>TM1.4.2.1 Terminal Operations</td>
<td>TM1-26</td>
</tr>
<tr>
<td>TM1.4.2.2 Intermodal Yard Operations (ICTF)</td>
<td>TM1-29</td>
</tr>
<tr>
<td>TM1.4.3 Summary of Existing and Planned Transportation Conditions</td>
<td>TM1-30</td>
</tr>
<tr>
<td>TM1.5 SUMMARY OF NEEDS AND GAPS</td>
<td>TM1-31</td>
</tr>
<tr>
<td>TM1.6 NEXT STEPS</td>
<td>TM1-34</td>
</tr>
<tr>
<td>APPENDICES</td>
<td>TM1-36</td>
</tr>
<tr>
<td>Appendix TM1-A – Glossary</td>
<td>TM1-37</td>
</tr>
<tr>
<td>Appendix TM1-B – Annotated Summary of Reports</td>
<td>TM1-39</td>
</tr>
<tr>
<td>Appendix TM1-C – Summary of Key Projects/Programs</td>
<td>TM1-47</td>
</tr>
<tr>
<td>Appendix TM1-D – Meeting Summaries</td>
<td>TM1-63</td>
</tr>
</tbody>
</table>
LIST OF FIGURES

Figure TM1-1 – ITS Integration Plan for Goods Movement Implementation Components ........... TM1-2
Figure TM1-2 – Regional Map ........................................................................................................ TM1-9
Figure TM1-3 – Warehouse and Distribution Centers ................................................................. TM1-10
Figure TM1-4 – Freeway Operations ......................................................................................... TM1-12
Figure TM1-5 – Arterial Operations ......................................................................................... TM1-16
Figure TM1-6 – RIITS Communication Network ........................................................................ TM1-21
Figure TM1-7 – Container Terminals at the Ports .................................................................... TM1-27
Figure TM1-8 – Port ITS Field Elements .................................................................................... TM1-28

LIST OF TABLES

Table TM1-1 - Gateway Cities Signal Operations ....................................................................... TM1-14
The Gateway Cities Council of Governments (GCCOG), in support of cleaner air and reduced congestion, is interested in furthering technology applications and connections within the transportation system. By nurturing technology in this field, the COG believes that increased efficiencies, in the movement of goods in particular, can be realized through the southeast Los Angeles area resulting in a better quality of life for its 2.5 million residents. These technologies known as Intelligent Transportation Systems (ITS) have been proven to work better and result in greater benefits to drivers when connected to one another to share more information. The purpose of this ITS Integration Plan for Goods Movement is to determine where technologies applied to transportation can have a positive impact and where they should be connected to provide a safer and more mobile transportation system for residents and business owners.

This ITS Integration Plan for Goods Movement has a heavy emphasis on goods movement and the private sector as a critical partner in developing solutions that will be effective. Numerous regional and statewide studies and plans have looked at the specific issue of freight and the importance of freight mobility to the regional, state and national economy. This Integration Plan has a different perspective, which is illustrated in the graphic shown in Figure TM1-1. Each component of the hundred dollar bill (described below) demonstrates that the benefits of goods movement can not be realized without the successful addition of the different components to complete the “bill.” The benefits for this ITS Integration Plan for Goods Movement are accomplished through:

- Coordinated, Active Operations – The day-to-day business of both the public and private sector is improved through operations that are coordinated with the appropriate parties and actively monitored for performance and future improvements.

- Technology Infrastructure – The deployment of advanced technology infrastructure, such as a communication backbone or field equipment to monitor Port terminals, provides information to both the private and public sector.

- Business Decision/Information Flow – The private sector uses information to make more informed business decisions, which not only impact their bottom line, but increase efficiency.

- Public Decision/Information Flow – The public sector uses information to make decisions that impact their constituents and to guide infrastructure investments.

- Policy and Investment Decision-Making – Both the private and public sectors work together to make Policy and Investment decisions based on the information flows specific to their industry by working together toward a common goal and mutually beneficial partnership.
This technical memorandum, Technical Memorandum #1, is the first deliverable in a series that combined will comprise an ITS Integration Plan for Goods Movement for the Gateway Cities area. Technical Memorandum #1 identifies the needs of the public and private sector for transportation and goods movement and the existing conditions in the Gateway Cities area.

The needs of the stakeholders, both public and private sector, in terms of Goods Movement and existing conditions in the Gateway Cities area were determined by one-on-one interviews, the ITS Integration Plan Working Group meetings, and researching existing documents and plans, among other sources. The following needs are described in this technical memorandum:

**Real-time Traveler Information**
- Information to be provided to trucks and dispatchers
- Freight-specific traveler information needs
- Potential partnerships to support traveler information

**Deployment and Integration of Field Infrastructure**
- Monitoring infrastructure on freight-critical corridors
- Accurate truck volume counts
- Real-time data collection on key freeway corridors and arterial highways

**System Integration**
- Links among data collection systems to include the Ports
Goods Movement

- Improve efficiencies at terminal and intermodal facilities through electronic access and information
- Communication link between transportation management agencies and the goods movement industry
- Standardized, Port-wide accurate appointment (or reservation) system
- More truck inspections and weight monitoring facilities

Policy/Institutional Needs

- Coordination for real-time operations strategies
- Uniform weight enforcement in the region
- Private sector involvement to enhance freight traveler information
- Incentives or guidelines for public agencies to effectively incorporate freight issues
TM1.1 INTRODUCTION AND OVERVIEW

The Gateway Cities Council of Governments (GCCOG), in support of cleaner air and reduced congestion, is interested in furthering technology applications and connections within the transportation system. By nurturing technology in this field, the COG (working with other public agencies and private industry) believes that increased efficiencies in the transportation system, in the movement of goods in particular, can be realized through the southeast Los Angeles area (and perhaps beyond) resulting in a better quality of life for its 2.5 million residents. These technologies known as Intelligent Transportation Systems (ITS) have been proven to work better and result in greater benefits to drivers when connected to one another to share more information. The purpose of this ITS Integration Plan for Goods Movement is to determine where technologies applied to transportation and goods movement can have a positive impact and where they should be connected to provide a safer and more mobile transportation system for residents and business owners.

The Gateway Cities COG has adopted this ITS Mission Statement:

"To improve safety and mobility of people and goods on freeways and arterial highways; to enhance economic competitiveness; and to improve the quality of the environment of residents for today and in the future by using technology to address traffic congestion, roadway deficiencies, pavement degradation and traveler information by serving commuters, tourists and commercial vehicles."

TM1.1.1 Definitions: ITS, Integration, and Architecture

For stakeholders who are new to ITS, Intelligent Transportation Systems, it is the use of technology to improve safety and maximize the productivity of the transportation network. For example, ITS refers to various applications such as electronic road signs providing information about detours or traffic incidents, or electronic credentialing systems that allow enforcement agencies to obtain shipment inventories and driver credentials efficiently while a truck is en-route. The terms ITS and technology are used interchangeably in this report. More definitions are found in Appendix TM1-A, Glossary.

Throughout the Gateway Cities subregion, some transportation technologies have been planned and deployed to varying degrees for various uses. This ITS Integration project will combine and align these efforts by different agencies and in different geographic locations within the region by providing an overall framework showing where these and future projects fit into an overall Gateway Cities subregion ITS strategy. Such an overall strategy is needed in order to optimize positive effects of the goods movement industry such as efficiencies, job creation and revenues, while reducing and mitigating negative impacts such as congestion, pollution, accidents, and noise.

The purpose of this ITS Integration Plan for Goods Movement is to share information, reduce redundant technologies between agencies or stakeholders, and provide transportation coordination and collaboration between public agencies and private industry. One example of integration is sharing information between transit, arterial, and freeway agencies to improve flow for buses on the transportation network. Another type of integration is when agencies use technologies that are compatible with each other such as traffic signals and emergency vehicle preemption.
Once the concepts of ITS and ITS Integration are folded into an overall strategy for the GCCOG area, information will be revised in regional ITS plans called Regional ITS Architectures. A Regional ITS Architecture is a detailed technical document that shows how ITS infrastructure and activities can be integrated, shared and coordinated. To qualify for funding, most ITS deployments typically have to demonstrate conformance to these Regional ITS Architecture documents. A separate, standalone report will be delivered that documents the revisions that should be made to those reports to make them current with this Integration Plan.

**TM1.1.2 Project Stakeholders**

In the past, members of the private sector goods movement community such as truck operators, rail operators, and distribution services, have not typically been invited to fully participate in large-scale, long-term transportation (including technology) planning efforts; these efforts have been primarily developed by the public sector. The ITS Integration Plan for Goods Movement for the Gateway Cities subregion is different because the private sector goods movement perspective is elevated to primary importance. Stakeholders from various public entities (such as port and terminal operators, rail agencies, and federal, state and local governments and transportation agencies and coalitions) and private sector stakeholders were sought out to participate in the project process, to provide input and insight into establishing their transportation technology needs and issues. Some of these stakeholders were interviewed in person and all were invited to participate in regular working group meetings. Meeting summaries appear in Appendix TM1-D and a list of stakeholders appears below.

**GCCOG ITS Integration Plan ITS Working Group**

- Automobile Club of Southern California (AAA)
- Addison Burnet Group, Inc.
- Ability Tri-Modal Transportation Services
- Alameda Corridor East (ACE) Construction Authority
- BGM Consulting representing GCCOG
- Burlington Northern Santa Fe (BNSF)
- California Trucking Association (CTA)
- South Coast Air Quality Management District (SCAQMD)
- California Highway Patrol (CHP)
- Caltrans District 12
- Caltrans District 8
- Caltrans District 7
- Caltrans Headquarters
- City of Downey
- City of Long Beach
- City of Los Angeles
- Federal Highway Administration (FHWA)
- Federal Maritime Administration (MARAD)
- Gateway Cities Council of Governments (GCCOG)
- Honolulu Freight Service
- International Warehouse Logistics Association (IWLA)
- LA County Department of Public Works (LADPW)
Los Angeles County Metropolitan Transportation Authority (Metro)
Metrans (USC)
Orange County Transportation Authority (OCTA)
Pacer Distribution Services, Inc.
Port of Long Beach (POLB)
Port of Los Angeles (POLA)
Riverside County Transportation Commission (RCTC)
San Bernardino Associated Governments (SANBAG)
Southern California Association of Governments (SCAG)
Transport Express
Total Transportation Services, Inc.
Union Pacific
West Coast Corridor Coalition

TM1.1.3 Objectives

This ITS Integration Plan for Goods Movement has a heavy emphasis on goods movement and the private sector as a critical partner in developing solutions that will be effective. Numerous regional and statewide studies and plans have looked at the specific issue of freight and the importance of freight mobility to the regional, state and national economy. Several of these studies have been reviewed as part of this effort, and an annotated bibliography is included in Appendix B.

As agreed upon by the stakeholders discussed above, the objectives of this ITS Integration Plan for goods movement are to:

- Identify existing and planned ITS projects and systems in the region and assess their ability to meet the unique needs of freight and goods movement;
- Summarize the specific needs of freight and goods movement stakeholders;
- Identify and incorporate other appropriate stakeholders into the plan development process;
- Document key initiatives that could support safer and more efficient goods movement;
- Identify opportunities and gaps in current agency ITS plans and programs;
- Develop potential strategies and solutions for innovative applications, partnerships and projects;
- Identify where updates to regional ITS architectures should focus to best integrate freight and goods movement with transportation/traffic management; and
- Summarize in an ITS Integration Plan for Goods Movement that identifies deployment, partnerships, business model approaches, funding requirements, and timeframes to best leverage investment and involvement by the public and private sectors.

Technical Memorandum 1 accomplishes the first two bullet point objectives. The details of the report are explained in the following section. The objectives listed above would not only benefit goods movement but would also provide similar benefits, upon implementation, to general public traffic as well.
This technical memorandum is the first of two interim deliverables that will feed into a final report summarizing an Intelligent Transportation Systems (ITS) Integration Plan for the Gateway Cities Area. It summarizes the existing conditions and the planned ITS projects and programs in the region that are aligned with goods movement focused strategies. It provides public agency leaders and representatives from the private sector with a summary of current ITS initiatives and how those programs can or do address the unique needs of the goods movement community that rely on the transportation network every day. This memorandum also identifies needs specific to goods movement that have the opportunity to be addressed through technology application, and where there are opportunities for filling the gaps between the two.

The second interim deliverable will identify specific strategies and solutions that stakeholders in the region should undertake to proactively address the growing – and very real – role of freight travel within the context of the regional transportation network.

This memorandum fits into the overall GCCOG ITS Integration Plan for Goods Movement as follows:

GCCOG ITS Integration Plan for Goods Movement

- Technical Memorandum 1: Inventory, Existing Conditions, and Needs Assessment
- Technical Memorandum 2: Project Concepts
- Gateway Cities ITS Integration Plan
  - Concept of Operations
  - Business Plan
  - Implementation Plan
  - Executive Summary

All documents in this series are intended for a layperson’s audience, not necessarily expert in transportation technology or in the logistics and operations of the goods movement industry. It is anticipated that experts from both transportation and goods movement are likely readers as well as potential policy makers or senior managers. The intent of these summary documents is to focus on critical and sometimes innovative strategies and solutions. In all cases, industry jargon is minimized and defined to the greatest extent possible. Additionally, a glossary of terms and a bibliography of sources are found in the appendices that can be used for further detailed research of these projects and topics.

Section 1 Introduction – This section provides an overview of the ITS Integration Plan for Goods Movement for the Gateway Cities subregion and the growing role of goods movement within the transportation network that has warranted this project.

Section 2 Report Contents and Organization – This section describes how this deliverable fits into the overall project development.

Section 3 Existing Conditions, Systems and Inventory – This section identifies some of the current regional and local ITS programs and initiatives. It includes information about the freeway and arterial...
networks, port infrastructure and systems, private sector technologies, and regional/statewide ITS initiatives and how they relate to or support goods movement. The existing conditions and inventory for this technical memorandum does not document each and every ITS system in operation in the region, but rather identifies those priority systems that provide a foundation for enhancing goods-movement focused operations.

**Section 4 Goods Movement and the Impact on the Region’s Transportation Network** – This section provides an overview of the logistics and operational issues involved with goods movement, including terminal operations and land use considerations for warehouse/distribution center locations.

**Section 5 Needs Assessment and Gaps** – This section summarizes the transportation and goods movement needs and challenges that have been identified. These are used as the basis for the other deliverables that recommend specific projects and communication links to integrate operations in the Gateway Cities subregion. Gaps in how current agency systems and programs are able to address this unique goods movement customer are also identified. Gaps include timeframes, infrastructure or processes that are hindering effective coordination and operations.

Selected text throughout the report appears in bold. The bold text represents highlighted needs, gaps, or key issues.

**TM1.2.1 Background**

Goods movement is a vital part of the California economy – according to the Southern California Association of Governments “Goods Movement Action Plan”, it accounts for one out of every 10 jobs in Southern California alone, which equates to $30 billion in regional wages and salaries. The Port of Long Beach and Port of Los Angeles are the two busiest ports in the nation, and 75% of the international cargo coming into this country passes through these ports. With almost 16 million twenty foot equivalent (TEU’s) containers moving in and out of the port areas in 2007, this equates to millions of truck trips per year – and this number will increase more than 300% over the next 25 to 30 years or the port volumes are projected to grow to 42.5 million TEU’s. The future growth of freight traffic in the region is very real, will put inexorable demands on the region’s already constrained transportation facilities, and affect the quality of life for residents in communities located near logistics industry facilities.

Increasing the capacity of the freeway and arterial network surrounding the Ports and throughout the region to accommodate the reality of exponential increases in freight traffic is problematic at best. Agencies and key partners in the Gateway Cities subregion must look to alternative strategies and begin planning for a long-term approach to continue to elevate the priority of goods movement in the regional transportation management strategy including the use of transportation technology.

The Gateway Cities study area for this effort is a subregion consisting of 27 cities (2.5 million residents) in southeast Los Angeles County plus the County of Los Angeles, and the Port of Long Beach. In addition to this primary study area shown in Figure TM1-2, it remains at the forefront of the ongoing analysis that goods movement does not have only a localized impact but impacts residents, travelers, and traffic conditions throughout Southern California and beyond.
Transportation and communications technologies present opportunities to implement innovative and effective strategies that will help to optimize freight traffic movement as well as its impacts on network mobility, safety, and the environment. New infrastructure – whether it is new lanes or new technological systems – could be a public sector responsibility to define, implement, operate and maintain. However, key to the success of any freight and goods movement focused strategy in the region will be strong involvement and partnership with the private sector. Other potential strategies could require significant shifts in regional and state policy or new institutional models. The public sector cannot address this issue alone.

The logistics of moving trucks on the region’s roadways is only one consideration within goods movement. To understand the complexity of the goods movement industry, it is important to also factor in the various processes and transactions involved in moving containers. There are a series of different interactions for the majority of containers coming into and out of the Ports, and the relationship of the drayage companies, rail yard operations, Port operations, terminals and shippers as well as distribution and warehouse operations, create a complex network of information flows and exchanges between multiple stakeholders at the Ports of Los Angeles and Long Beach.

Both Ports are import-orientated ports with a very high incoming container volume. Thus, the majority of the truck trips made on the highways near the Ports are to pick up containers that are offloaded from ocean vessels onto the terminal yards, and take the majority of them via truck to distribution/warehouses within Southern California (or to intermodal rail yards). Only 15% of
incoming cargo leaves the Ports via on-dock rail; the other 85% must leave the Ports via truck. Warehouses and distribution centers within or near the subregion are a vital component of the good movement activities. **Figure TM1-3** shows areas of Southern California that are zoned for warehousing and distribution. According to the SCAG “Goods Movement Action Plan”, over the next few years, the warehousing and distribution industry in Southern California is expected to increase at a double-digit rate to accommodate the growth in imports, which would mean more truck miles and longer trips in the Region. This highlights the importance of a goods movement related ITS Integration Plan for Goods Movement.

**Figure TM1-3 – Warehouse and Distribution Centers**

---

**TM1-3 EXISTING CONDITIONS, SYSTEMS AND INVENTORY**

This section describes a summary of the key transportation networks and systems (existing and planned) that will be critical to a more comprehensive foundation of goods movement strategies. This section is intended to highlight goods movement considerations. A more detailed summary of key projects and programs is included in **Appendix C**.

**TM1.3.1 Freeway Network and Infrastructure**

The freeway network in the Gateway Cities subregion is comprised of several freeway facilities owned and operated by Caltrans District 7, which covers Los Angeles and Ventura counties. Key freeway corridors for Port access, and hence with higher truck volumes, are I-710, I-405, I-110, SR91, I-105, and I-605.
Caltrans’ computerized management system provides real-time information about freeway speeds. This information is critical to a regional traffic management and operations strategy. This real-time data:

- Allows Caltrans traffic managers to monitor actual conditions on freeways and make operational decisions;
- Detects abnormal conditions and incidents on freeways; and
- Feeds a wide range of traveler information systems that provide information to motorists (including public sector, private sector and local media). This information is disseminated through message signs on the freeway that display travel times or on webpages that show travel times and approximate travel speeds, in addition to direction connections to other agencies.

To provide this real-time information, Caltrans District 7 owns a large number of field devices on the freeways that includes vehicle detection systems (loop detectors and classification stations), closed-circuit television cameras, and electronic message signs. Southern California freeways have vehicle detectors approximately every half mile on the main-line and at most ramp locations. In the Gateway Cities area, detectors are provided along most major interstates, but there is no detection capability on I-710 or I-110 within ten miles of the Ports. This lack of real-time data collection infrastructure on these critical corridors limits the ability of agencies to monitor corridor conditions in real-time, and limits available traffic data useful for freight operations.

Caltrans District 7 collects data from ramp meter and traffic monitoring systems every 30 seconds. The computer system converts the data into volumes, occupancy averaged over multiple lanes, and average speed for all lanes combined in each direction at each detector site. The data are aggregated every minute, every five minutes, and every hour. The aggregated data are displayed on a map-based user interface for Caltrans operators and is then made available for downloading by other agencies through Los Angeles Metro’s Regional Integration of ITS Network (RIITS) – a system that will allow transportation data to be shared by many public agencies, private companies, and individual drivers. Caltrans also displays a link on the District’s website to Metro’s real-time traffic map; additional incident and scheduled maintenance information is available via Caltrans’s statewide phone hotline. Detection information is also provided to the Performance Measurement System (PeMS), which is a database of historical vehicle detector data from all freeway management systems operated by Caltrans’ twelve Districts.

The technologies that are currently in place on freeways in the Gateway Cities area are depicted in Figure TM1-4 and are described in more detail below.
Figure TM1-4 – Freeway Operations
Caltrans’ cameras are deployed along most of I-405 providing monitoring of traffic along that corridor. **There are no cameras deployed along I-110 and only a few cameras deployed along I-710 which are critical freight traffic routes to the Ports.** Caltrans is able to control cameras and view real-time video from the District 7 Traffic Management Center. The City of Los Angeles's traffic signal control center can also view District 7’s real-time video images. District 7 is in the process of making video accessible to the general public on the Caltrans website.

Another integral component of the Caltrans system is the network of electronic message signs that display travel times, incident information, and notify travelers of upcoming freeway closures or restrictions. **There are 14 electronic signs on freeway corridors in the region; there are no signs deployed along I-110 or I-710 leading to the Ports and only one outbound from the Port of Long Beach on I-710 as shown previously in Figure 4.** Projects currently in the planning phase in the region show proposed message signs in this vicinity that will fill some or all of this infrastructure gap. Travel time information is valuable and appreciated by most motorists; however, **the information currently available on message signs may not be in the most usable format for trucks.** The travel times may not be accurate for trucks due to congestion on restricted lanes or differences in acceleration and deceleration.

Information from Caltrans’ system is also available via phone and on the internet through public and privately operated web sites. Trucking company representatives report that few dispatchers and even fewer truck drivers utilize this available tool citing lack of accuracy (getting information prior to a trip and then conditions change), applicability (displayed travel times are not the travel times that trucks necessarily experience due to speed and lane differentials and crucial port-specific data is missing) and accessibility (truck drivers have specific needs for voice responsive and proactive information to be fed to cabs for safety reasons) as reasons. Truckers also may be unaware of the available information because of the lack of internet access in their trucks or due to language barriers. **In order to provide information that is useful, relevant, and accessible to trucks, there needs to be truck-specific data reflecting delays that the trucks are currently experiencing on the roads and the information needs to be proactively “pushed” to drivers and dispatchers in a usable, safe, “real-time” delivery method.**

Weigh-in-Motion (WIM) systems used at truck scales and enforcement facilities on freeways can reduce wait times for vehicles in conformance with legal weight requirements allowing legal trucks to bypass scales without stopping. These systems allow trucks to travel at or near full speed passing over sensors, while the weigh in motion systems record loads, speed of vehicle, direction of travel, and date and time. The existing WIM in the study area are stand alone facilities that are not connected to a central system. There is a need for enforcement facilities and scales within the subregion to improve safety, however, limited real estate options for locating the facilities, limited resources for operating them, and policy-level issues that do not currently tie enforcement operations to funding or performance all complicate the challenge of mitigating this gap. Currently Gateway Cities, in conjunction with Caltrans and CHP, is preparing a siting study for permanent truck inspection and enforcement facilities and developing a strategy to manage them.

Enforcement facilities, scales, weigh-in-motion, and count and classification technologies on freeways and potentially on allowable and heavily-used truck routes can provide critical information to allow local and state agencies to address the impact of freight on road infrastructure (proper design for heavy loads and volumes and enforcement of weight restrictions), to develop strategies to improve freight mobility and mitigate the impact of truck traffic on general mobility, and to improve the overall safety performance of the road network (enforcing load-carrying regulations to reduce truck accident rate).
TM1.3.2 Arterial Networks and Infrastructure

The study area is comprised of 27 cities and areas of unincorporated Los Angeles County in addition to the ports. Ten traffic signal systems are planned or in place that allow agencies to change traffic signal timing on arterials from a remote location. Figure TM1-5 provides a color-coded representation of the signal systems – some are operated independently by the local jurisdiction, while others are operated by a larger agency on behalf of other neighboring agencies (e.g., the County of Los Angeles has a system that will connect with signals in seven agencies in the region, on their behalf). These systems, in combination with a regional system (the Information Exchange Network, IEN, operated by Los Angeles County DPW, described further below) provide the basics needed to develop arterial-based travel time and construction data – two types of data desired by truck operators.

The table below describes the current status of the coordinated signal systems with the Gateway Cities.

<table>
<thead>
<tr>
<th>Coordinated Traffic Control Systems not currently proposed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Montebello Whittier La Habra Heights La Mirada Lakewood Cerritos Hawaiian Gardens Artesia</td>
</tr>
<tr>
<td>The traffic signals in these cities are not planned to be part of coordinated traffic control system.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Coordinated Traffic Control Systems in place or proposed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vernon</td>
</tr>
<tr>
<td>Maywood</td>
</tr>
<tr>
<td>Santa Fe Springs</td>
</tr>
<tr>
<td>Downey</td>
</tr>
<tr>
<td>City</td>
</tr>
<tr>
<td>-----------</td>
</tr>
<tr>
<td>Norwalk</td>
</tr>
<tr>
<td>South Gate</td>
</tr>
<tr>
<td>Compton</td>
</tr>
<tr>
<td>Long Beach</td>
</tr>
<tr>
<td>Commerce</td>
</tr>
<tr>
<td>LA County</td>
</tr>
</tbody>
</table>
Figure TM1-5 – Arterial Operations
There are multiple management centers in the area from which these arterial-based systems are operated. Smaller agencies have the computers in a room within City Hall or in a traffic engineer’s office. The management centers are not currently staffed on a regular basis, with the exception of the City of Los Angeles. The Cities of Downey and Long Beach have traffic management centers that are staffed on an as-needed basis by traffic engineering staff. Other signal systems in the subregion are operated by the County of Los Angeles from their management center in Alhambra, Santa Fe Springs operates systems for three agencies, and others are independently operated by the cities themselves (as shown in Figure TM1-5). Four cities in the subregion do not currently have central signal systems.

The Cities of Los Angeles and Long Beach maintain the traffic signals in the respective Port properties. The City of Los Angeles will have central control of the Port of Los Angeles’s signals by 2008.

By 2009, most of these existing traffic signal systems will be connected to the Los Angeles County Information Exchange Network (IEN): a software system for multi-agency sharing of traffic signal status and monitoring information (more information about the IEN is included in Section 3.4.1).

Additionally, each Port currently has a Center that monitors and controls the security cameras on-site, and a new Homeland Security-funded multi-agency Security Center on Pier F will eventually be the central location from which Port of Long Beach security is managed. The security cameras within the Ports are primarily focused on freight and water-side security, but there are some security cameras that cover the roadway networks within the Ports. The Port of Long Beach is planning for a new Traffic Management Center that will have traffic management capabilities (as a part of a currently planned project called ATMIS).

A basic infrastructure need for these central systems to function is some form of communications from the traffic signals in the field back to a central location. This communications infrastructure is often the most costly component of getting a system up and running. The County of Los Angeles is funding wireless communications to a portion of the signals within the area, but funding limitations mean that not all signals will have communications.

Another key difference among all of the local traffic signal and operations systems is detection, and the ability of traffic managers to be able to monitor real-time arterial conditions or congestion. Although there are advanced detectors deployed in the region, detection, in general, is limited typically to detecting presence of vehicles at intersections and not along arterial segments. Freight/trucking companies indicated there is a need for real-time information about arterial travel conditions (on allowable routes) – congestion, travel times, work zones, incidents or other delays. In order to calculate this information, mid-block, or ideally, downstream detection would be required along these allowable routes through the region. As a part of recent studies to put these systems in place, a common theme was noted that local agencies are limited in available staff resources to be able to regularly manage these systems or provide enhanced services such as inputting construction schedules.

There are several additional challenges to providing arterial-based travel times or delay information for freight or passenger vehicles:

- Arterials regularly experience interruptions to traffic flow and progression: signal operations, preemption, pedestrians, transit, vehicles entering the mainline from driveways or bisecting arterials, etc. This makes it much more complicated to calculate or estimate actual speed or travel time over a corridor segment.
Predictive traffic models do not factor in heavy non-recurring congestion (from accidents), and may not factor in planned closures or restrictions.

**Similar to freeway speeds, ‘typical’ arterial corridor speeds are not an accurate reflection of truck speeds.** With the extended time for trucks to accelerate, decelerate or turn, there is an exponential reduction in truck travel speeds versus a typical passenger vehicle.

Up-to-date (or “real-time”) and accurate arterial traffic conditions information is unavailable in most areas of the country, and in the specific case of the Gateway Cities subregion, this gap limits the ability of agencies to provide comprehensive information to trucks and the general public who rely on the arterial network. Trucks use the arterial network, either as an alternate to congested freeways, or because of proximity to distribution/warehouse locations. **There is a unique opportunity in the GCCOG subregion to examine and develop innovative approaches to arterial data collection and information dissemination on allowable truck routes.**

Separate from the traffic signal systems, several agencies have plans to (or currently) operate cameras at some major intersections. Live video feeds are transmitted from the cameras to the agencies’ management centers for remote monitoring of traffic conditions. The City of Los Angeles also operates some electronic signs along key corridors. The local electronic signs are shown in Figure 4.

Figure 4 also identifies posted truck routes on arterials in the Gateway Cities subregion. Truck counts have been completed on a few of the corridors near the Ports, but truck volumes and frequency of usage is not fully known throughout the subregion because there is a lack of data. **Identifying the most heavily utilized truck routes will allow agencies in the Gateway Cities subregion to identify priority corridors for technology investments, and identify where future capacity or other infrastructure improvements should be focused.** Because trucks make use of the arterial network as alternatives to the congested freeways in the area around the Port, this poses additional challenges for the agencies that manage and maintain those arterials.

**TM1.3.3 Port Infrastructure and Systems**

*TM1.3.3.1 On-site Port Traffic and Incident Management Systems*

The transportation network surrounding and within the Ports will incorporate technology to monitor traffic on-site using cameras and queue detectors. The two ports are in the processes of implementing an Advanced Transportation Management Information System, ATMIS. (See Appendix TM1-C for details). The implementation of ATMIS results in a management center, planned for operations in 2010, to be staffed 24/7 and serve as a Transportation Management Center for the Ports by providing traveler information including real-time traffic conditions and advanced warning of incidents in the Port area and vicinity using electronic message signs. The exact numbers and location of field equipment is still in the planning stages, but the current plan is for 16 electronic message signs, 16 cameras and 10 queue detector locations to be located throughout the two ports. Queue detection is also planned. Queue detectors are intended to be in-pavement loop detection used to monitor queues and idling at some terminal entrances. Final locations for the abovementioned equipment have not yet been finalized. **Final locations will enable this project to pinpoint remaining infrastructure gaps in the study area.**

The security departments at both Ports are also planning a fiber optic cable communications backbone within the area to be completed by August 2008, which would provide a common fiber backbone to enable sharing of video feeds and other data between the two Ports. The planned installation of 52 surveillance cameras within the Ports, some portable cameras,
and a shared video access web portal by Port of Long Beach Security will be used for
detection of emergency situations. The extent to which this data and video could be used by
entities outside of the Ports or uses outside of security, such as for traffic management, has
not yet been determined or analyzed.

TM1.3.3.2 Port Logistics and Scheduling Systems

With independently, privately operated terminals within the Ports, each terminal operator
has its own processes and procedures in place for coordinating with their cargo owners,
trucking companies and shipping companies. Implementing or requiring a consistent set of
processes for terminals to provide real-time information about what is happening on-site
will be difficult, if not impossible, for the public sector to develop. However, trucking
companies have said that getting accurate, reliable information about when shipments
are ready to be picked up would be of great benefit to improving the efficiencies of
their operations and reducing idle times and the number of trucks on the roads.
Alternately or in addition, having accurate and reliable turn times at each terminal
(at least on an hourly basis) would help trucking companies make informed business
decisions, potentially reducing delays within and surrounding the Ports.

In 2004, the State of California passed legislation which penalizes terminal operators for
delays in which trucks are left idling and/or waiting in truck queues in excess of 30 minutes.
In Southern California, the law is enforced by the Southern California Air Quality
Management District who employs a full-time inspector to provide compliance surveillance
at both Ports. The inspector levies fines against terminals that are not in compliance.
Terminals can avoid fines by offering a gate appointment system, or by extending full
service gate hours to 70 hours per week. This legislation applies to the queues outside
of the port terminals; however, the legislation does not have jurisdiction over queuing or
operations inside the terminals.

In response to this legislation, and in an effort to mitigate the growing congestion on and off
of the Port properties, PierPASS was established by the Ports of Los Angeles and Long
Beach to manage and improve truck movements, to address congestion and improve air
quality by reducing the number of idling trucks and driver’s waiting time. PierPASS has an
“Off-Peak” program that charges a traffic mitigation fee of $50 per twenty foot equivalent
unit container for peak-hour pickups or deliveries. There is therefore a financial incentive to
cargo owners to schedule and move deliveries off-peak or on Saturdays when adjacent
roadway traffic volumes are lower. The fees are used to subsidize the additional shifts at
the Port to be able to provide service during extended hours. The PierPASS OffPeak
program has been in place for two years, and PierPASS estimates that it has diverted 5
million trucks from peak-hour travel, for an average of 60,000 truck trips per week.

The alternative for complying with the State legislation is to use an appointment system at
the terminals. There are two primary third-party appointment systems which are used by the
terminals at the Ports: eModal and VoyagerTrack. Other systems are used by a few
terminals, but eModal and VoyagerTrack have the largest market share. Both have the same
objective – to provide an automated reservation/scheduling system for trucks to schedule a
time to pickup their containers.

- VoyagerTrack allows freight companies access to real-time information about when a
  container is received from the truck at the terminal, or delivered to the truck from the
terminal operator, or available for pickup. VoyagerTrack allows customers to access
  their container and shipping information via Internet or by phone. In addition to the
- **eModal** provides several services for freight companies including an appointment system, terminal information, and fee payment service. Dispatchers access eModal using a website log-in. The appointment system website interface is different for each terminal based on the terminal’s time schedules and container pick-up area layout. There are currently four terminals at the Port of Los Angeles and five terminals at the Port of Long Beach that use eModal as their appointment system provider.

While all terminals offer some form of reservation system, not all systems are reliable or well-used. **Of the fourteen container terminals at the two Ports combined, most use eModal, a private web-based computer system for terminal operations, container tracking and reservation system.** This system may provide a common portal for trucks and dispatchers to access additional information regarding area-wide travel conditions.

According to a survey conducted by California State University, Long Beach and the University of Southern California, a relatively low percentage of freight companies actually use the appointment systems. **Lack of accuracy was cited among the key reasons for freight not using the appointment systems.** Truck drivers expressed difficulty in setting appointments 24 hours in advance since it is impossible for them to accurately predict their arrival time at the terminal due to unpredictable congestion and uncertain transaction time at other terminals. Therefore, there is a significant percentage of cancelled and missed appointments. To get around the cancellations, drayage companies can enter several appointments to pick up the same container and they are not penalized for this. This leads to inaccurate information on the terminal gate appointment system. **It is not known how useful the appointment system will be to make more efficient business decisions considering these reservation systems are not consistent or reliable but there is potential for improvement.**

The Ports are instituting changes to enhance security required by the U.S. Department of Homeland Security and U.S. Coast Guard and improve gate clearance operations to streamline identity validation. One of the changes is that the Ports will require trucks to be equipped with electronic identification tags (RFID tags) in order to gain access to the terminals beginning December 2007. Trucks without the tags will be processed manually, which may lead to significant delays. The electronic tag readers will be located at the terminal gates to provide added security checks. The addition of tag readers outside of the gates would provide accurate truck count data on the transportation network. **Installing additional electronic tag readers on key corridors as a means of monitoring truck volumes on roadways leading into and out of the port areas could provide another method to collect real time traffic data.** Privacy issues would be a key concern that would need to be addressed.

**TM1.3.4 Data Exchange Systems and Regional Programs to Support Goods Movement**

**TM1.3.4.1 Regional Data Exchange Systems**

Agencies in Southern California are moving toward leveraging their existing technology investments by exchanging and combining data for use in transportation management and
for distribution to travelers. Two key systems in the region provide the backbone for automated and real-time information exchange:

- **Regional Integration of Intelligent Transportation Systems (RIITS).** The Los Angeles County Metropolitan Transportation Authority (Metro) owns and administers the RIITS network. The RIITS network is a multi-modal, web-based communications network that supports information exchange in real-time between freeway, traffic, transit and emergency service agencies. RIITS establishes system-to-system links to automate the exchange of traffic control, work zone, transit vehicle locations and schedule adherence/performance, traffic, and incident information. This information is provided by existing public agency systems. Agencies currently connected to the RIITS network include Caltrans District 7, Metro (for transit information) and the City of Los Angeles. Efforts are underway to connect additional agencies including additional Caltrans Districts and Los Angeles County’s Information Exchange Network (described below). RIITS also provides data to private sector traveler information services in XML base files (a type of file format) and will be the primary data source for the upcoming Los Angeles 511 system.

![RIITS Communication Network](image)

**Figure TM1-6 – RIITS Communication Network**

- **Information Exchange Network (IEN).** The Los Angeles County IEN Network allows arterial-based traffic management centers with Los Angeles County to share and exchange information to manage and coordinate traffic progression, improve coordination between member agency traffic control systems, track construction, and
improve incident response. The IEN interfaces with multiple traffic control systems and allows for information from these signal systems to be displayed on a common interface where agencies can view traffic signal information from adjacent agencies to assist in traffic management and signal timing decisions. As depicted above, the IEN will have a connection to pass this arterial roadway data to RIITS, which would then make it available on a wider basis in Southern California. Other elements of the IEN include tools for tracking incidents in the region and implementing response scenarios to adjust traffic signal timing at intersections that may be impacted by incidents on the freeway and surface street network. This system can become the backbone for an arterial component to a CVO-tailored information system, providing critical information from local agencies systems to a centralized computer system for arterial-based travel times or delays. Though a coordinated roadway construction tracking system is not currently in use to a great degree, primarily due to lack of agency resources to populate this information into the database, the capability can be capitalized on for allowable truck routes if resources and an approach can be identified.

TM1.3.4.2 Traveler Information Systems

Freight and goods movement stakeholders – including truckers on the road, dispatchers at their offices, drayage companies and other cargo customers – need real-time, and accurate information about the regional roadway networks. Real-time, in this case, is a very small window of 10 minutes or less in order to make business decisions. Significant delays due to congestion, incidents, and work zones have a significant impact on their daily operations.

Traveler information is currently available in Southern California through a variety of media (electronic signs, internet, radio, and personal hand-held or in-vehicle devices). Many travelers also get information via radio broadcasts about congestion, incidents and overall travel conditions; this is likely the most widely used medium for peak-period traffic updates. Truckers have their own ad-hoc traveler information network, and in fact, often get the most up-to-date information on congested corridors from other truckers through radio (cb) communications.

Traveler information websites provide real-time road traffic and weather information from numerous public sources (such as Caltrans and the California Highway Patrol) and private providers (such as Sigalert.com, Traffic.com, and others). Although websites provide a great deal of information and a visual perspective on current conditions (through CCTV or speed maps), website information is not well-suited for in-vehicle, en-route information, especially for truck drivers for whom safety is a high priority. Truckers indicated they need systems that are on-board and that can provide route-specific, real-time, and accurate information about current regional and very specific local traffic conditions and delays via a hands-free device.

Freight dispatch/operations centers can monitor various websites, but would then need to relay information to many truckers en-route. For most companies, dispatcher’s primary function is to tell trucks where to go and which loads to collect or deliver, not how to get there or routes to take. Also, on-board technologies could be cost prohibitive for the thousands of smaller trucking companies that travel through the region every day. Larger fleet companies are already making significant investments in technology – on board their vehicles as well as at dispatch and scheduling facilities. For smaller companies and
independent owner-operators, on-board devices and fleet management/information software may be cost-prohibitive to operate and maintain.

LA SAFE, a public agency affiliated with LA Metro, is in the planning and development stages of a 511 system, which will provide regional travel and traffic conditions information via an interactive voice response phone system (by dialing a national standard: 511) and the internet. 511 will pull data and information from the established data exchange networks (RIITS and PeMS), and provide this in a format that is useful to travelers. Whether 511 will provide freight-specific information has not yet been determined. There is a great opportunity to potentially tailor freight-specific information as a module of 511 – if Southern California 511 stakeholders take this on, it would be a benchmark among 511 systems around the country. It is likely, however, that this phase could be 5 – 10 years out or further, depending on the actual phasing of the project, which is currently behind schedule getting under contract and design has not yet commenced. To address the safety issues related to heavy truck operators requiring proactive devices and the need for carefully protected truck-specific data merged with the public traffic data, the basic system design of 511 would likely need to be altered from the outset. A second option to address this gap is to develop an interim or short-term solution that would combine a feed from 511 or RIITS to get what information is available and combine it with other data in a separate system. Furthermore, there would need to be some institutional and technical development efforts to be able to integrate terminal/port delay and turn time information – a high priority for freight – with regional transportation network data. Freight-specific information could be seen as a big incentive for trucking and cargo stakeholders. There is no freight-specific traveler information application currently available in the commercial marketplace, although this represents a unique niche market for potential private sector opportunity. Further exploration of solution concepts and alternatives will be provided in a subsequent report.

TMI.3.4.3 Statewide Data and Traveler Information Initiatives

California Highway Information Network (CHIN) is a Caltrans-operated information system which provides current road conditions within the California State Highway System by dialing a toll-free number to access recorded information. The information provided covers incidents that cause significant delays to the normal flow of traffic on major interstates including, but not limited to: full closures, one-way traffic controls, lane closures, construction, maintenance projects and emergencies. It includes planned closures/restrictions and incidents, but not real-time information (commute traffic, ramp closures and traffic flow conditions are not provided by this network).

The Caltrans Traveler Information Map Implementation (TIMI) is an online traveler information website being developed by Caltrans and will be operated and maintained by Caltrans Traffic Operations and Information Technology Divisions. Currently, TIMI is under development and is expected to be completed before the end of 2008. TIMI will retrieve and aggregate statewide Caltrans traveler information from around the state including camera images, electronic message signs, highway advisory radio messages, real-time traffic and roadway conditions, and weather information. Users can select specific routes from the electronic map and obtain the available traveler information. TIMI will provide dedicated static information for freight transportation, including weigh station locations, state routes allowing large trucks, and up-to-date intermodal connector information from the Bureau of Transportation Statistics. During its initial implementation stage, TIMI will not provide other dynamic traffic and roadway information tailored for
trucks. What information is available could be combined with other useful information to be provided to trucks. See subsequent report for more discussion.

**TM1.3.5 Private Sector Inventory/Information**

**TM1.3.5.1 Railroads**

The Ports of Los Angeles and Long Beach are served primarily by two major railroads, Union Pacific and Burlington Northern Santa Fe (BNSF). The Ports and surrounding jurisdictions have supported many measures to increase the capacity of rail because increased reliance on railroads to serve container traffic helps reduce the number of trucks on the road, and therefore, congestion around in the Gateway Cities area. One initiative to help increase rail capacity is the Alameda Rail Corridor, a 20-mile multi-track rail system that consolidated rail lines and minimized at-grade rail crossings (more information on the Alameda Corridor is found in Appendix TM1-C). The Ports have also developed a truck trip reduction program that relies on increasing use of on-dock rail, which connects the container terminals to the Union Pacific or BNSF rail yards.

Union Pacific operates a near-dock facility in Carson called the Intermodal Container Transfer Facility (ICTF) (for more information on the ICTF see Section 4.2.2 and Appendix TM1-D for private sector meeting minutes). The facility operates 24 hours a day, seven days a week, and handles a daily quota of 1500 containers a day. Each terminal operator has its own quota of containers for the ICTF and they are responsible for calling the trucking companies to pick up the containers to take them to the Facility. Containers that arrive at the facility after the quota is met are turned away. The peak hours at the ICTF are from 10:00 am and 2:00 pm. During this time, there is queuing at the gates and congestion in the areas around the facility. To relieve this queuing and to operate more efficiently, Union Pacific needs to know when the trucks are leaving the terminals to allocate resources more effectively. They also need to know the destinations of the containers to help build the trains. Currently, Union Pacific does not know which containers will arrive at the facility when. This makes it difficult to build trains because trains must be arranged in order of container destination.

BNSF operates similarly to Union Pacific. They have a rail facility southeast of downtown Los Angeles called the Hobart Rail Yard, and are in the planning stages of a near-dock facility near the Port of Los Angeles. BNSF requires GPS for the trucks that serve the facility and mandates the trucks follow certain routes. However, they do not currently require appointments or specify when the containers must arrive. The peak period for the facility is from 9:00 am to 2:30 pm. BNSF stated needs similar to Union Pacific in that they need to know when the trucks are coming and where the containers are destined for in order to operate more efficiently.

**TM1.3.5.2 Trucking Companies and Warehouse Operations**

The Ports of Los Angeles and Long Beach are served by countless trucking companies and warehouse and distribution companies. A private-public partnership with these companies is essential to improve the goods movement industry. Appendix TM1-D has summaries of the meetings with the private sector. Their needs are summarized below.

Many of the trucking companies are independent, owner-operator companies who are paid by the number of loads they carry in a day. Dispatchers tell the trucks which container terminal to go to pick up a load and also current traffic conditions for routing purposes. The
individual truckers determine his or her exact route. **Trucking companies and warehouse operations need real-time, accurate traffic information specific to trucks.** They need information on both freeways and arterials in order to determine which routes to take and how long it will take for the truck to arrive at the warehouse. The trucking companies also need accurate turn-time information within the terminals to plan their schedules. All information, including alerts on freeway message signs, needs to be multi-lingual since many truck drivers speak English as a second language.

### TM1.4 GOODS MOVEMENT AND THE IMPACT ON THE REGION’S TRANSPORTATION NETWORK

#### TM1.4.1 Freight/Goods Movement Statistics and Background for Gateway Cities Subregion

The Ports of Long Beach and Los Angeles are ranked as the first and second busiest ports in North America, respectively, and collectively, the fifth busiest in the world. Combined, they handled approximately 15 million twenty-foot container equivalent units (TEU) in 2006, and the Ports are currently forecasting 2030 container volumes to be 42.5 million TEUs.

Foreseen strong growth in container volume means more traffic volume in vessels, trucks and trains, which are all going to have enormous community, economic, environmental and social impacts within the Gateway Cities subregion. **Truck traffic volume has an enormous impact of overall traffic flow performance.** While traditionally, it has been thought that trucks are equivalent to 1.5 to 2.5 passenger cars in terms of impact on the roadway network and individual operations (deceleration lengths, etc.) a recent federal study concluded that in congested traffic, their effect on traffic flow is much greater and may be equivalent to 15 or more passenger cars. Future projections indicate almost 70,000 travelers per day on the freeways near the ports and 40,000 to 50,000 truckers per day on the freeways in the Gateway Cities.

The Region must address the needs and concerns of accommodating the projected demand in goods movement while evaluating the functionalities and capabilities of the existing transportation system and infrastructure.

The SCAG “Multi-County Goods Movement Action Plan” (2006) estimates:

- Truck vehicle miles traveled (VMT) will increase by 110% by 2030, from 22.4 million VMT in 2000 to 48.4 million VMT by 2030;
- Average Daily Heavy Duty Truck Hours of Delay (in thousands) is expected to increase from 71 in 2000 to 242 in 2030, assuming the continuation of existing land-use policies, and completion of regional transportation projects that are already committed for funding.

Forecasting future volumes of both truck and rail traffic helps to identify the needed transportation infrastructure and systems to support the growing goods movement activities in the Gateway Cities subregion. **To meet this demand, solutions will require more than infrastructure and technology enhancements; it will also require integrated public sector operations, institutional coordination and ongoing cooperative partnering with the goods movement community will be critical.** Subsequent technical memoranda within this ITS

---

1 Federal Highway Administration, "A Regional Truck Size and Weight Scenario Requested by the Western Governors’ Association." Chapter 8; 2004.
Integration Plan for Goods Movement will identify potential strategies, business model options and partnerships to create a multi-year, multi-partner approach to effectively integrate goods movement needs and define projects that will positively impact the growing freight demand into local agency plans and programs.

**TM1.4.2 Freight and Goods Movement Operational Issues**

*TM1.4.2.1 Terminal Operations*

Both the Ports of Los Angeles and Long Beach are comprised of numerous independent terminals, and these are the first cargo stop for incoming shipments. Figure TM1-7 shows the numerous terminal operations at the Ports and Figure TM1-8 shows the ITS Elements at the Ports. The terminal operators at the Port of Los Angeles are:

- West Basin Container Terminal
- Trans Pacific Container Service Corporation
- Port of Los Angeles Container Terminal
- Yusen Terminal
- Seaside Terminal
- APL Terminal/Global Gateway South
- APM Terminal

The terminal operators at the Port of Long Beach are:

- California United Terminals
- TTI/Hanjin Shipping Company
- Long Beach Container Terminal
- Pacific Container Terminal
- SSA Terminal

These are privately owned, operated and run by different companies, each with their own processes and procedures. It is important to keep in mind that terminal operations are private and competitive; they are not required to share information about operations, wait times, cargo availability or other pertinent information, which is exactly the information that trucking and goods movement stakeholders have indicated they need.
Figure TM1-7 – Container Terminals at the Ports
Figure TM1-8 – Port ITS Field Elements
As previously discussed, some terminal operators use automated reservation and scheduling systems (eModal and VoyagerTrack), but these are not mandatory. Others have developed and implemented their own systems. As discussed in the previous section, there are some pitfalls with these reservation systems – truckers have indicated these reservation systems are not accurate, and furthermore, just because cargo has arrived and is ready to be picked up does not mean that it is easily or readily accessible once the truck gets to the port and the terminal. **Lack of terminal operations data means that truckers cannot effectively predict turn times (loosely defined here as the time it takes to enter a terminal, load cargo, and leave the port), nor can they efficiently schedule more than one pick up at multiple terminals.**

While terminals operate 24/7, truck gates are not open around the clock, which means truck operating hours are limited for serving the terminals. Further expansion of service hours may address a part of the problem, as it could spread out appointments and truck turns over a longer period of time; however, trucking companies need to provide containers to distribution/warehouses and intermodal rail yard facilities, many of which are not open 24/7. As the various distribution centers, exporters and others in the supply chain expand their operating hours, so may the terminals and the Ports. This would allow more activity in the off-peak hours to reduce travel during peak congestion on the region’s transportation network. Although some terminals participating in PierPass have already begun to expand their operating hours, additional terminals need to expand their hours of operation as well.

Upcoming projects at the ports are primarily focused on security enhancements, and not necessarily on improving operational efficiencies within the terminals. Many of these upcoming projects could have uses beyond security applications, but the technology may need to be enhanced or reworked. These projects include:

- Security cameras within the terminals – there may be opportunity to share this video with some public agencies, but the cameras do not provide comprehensive congestion and queue information inside the terminals.
- Optical Character Reader (OCR) technology is used at the terminal gates for entering and exiting trucks. There may be an opportunity to provide additional readers throughout California to collect anonymous data that would provide public agencies with better data for future infrastructure planning.
- The active electronic identification tags (RFID) program is on-going with a scheduled completion date of December 2007. With a high market penetration of electronic tags, terminal operators will be able to leverage them by installing more electronic tag readers at key locations at the Ports property thus providing a more uniform tracking/monitoring approach. However, by requiring trucks to have standardized tags that can be automatically read by a roadside device also creates an opportunity for an additional data collection mechanism outside of the Ports. As with the potential to expand the use of the OCR technology described above, **it is critical for the ongoing partnership between the public and private sector that information be kept anonymous.**

**TM1.4.2.2 Intermodal Yard Operations (ICTF)**

The Intermodal Container Transfer Facility (ICTF) was constructed in 1986 by a Joint Power Authority, JPA, which is comprised of the Port of Long Beach, Port of Los Angeles, and Union Pacific Railroad. It is located approximately five miles from the ports of Los
Angeles and Long Beach, and it operates 24-hours a day, seven days a week to warehouse and distribute an average of 2500 containers per day (24-hour period) on peak days.

ICTF currently utilizes a computer system to manage inventory. The ICTF uses the Optimization Alternative Intermodal Strategic Scheduler (OASIS) system, which allows real-time reporting of all rail yard activities and allows truckers to obtain information on the location of containers within the rail yard. Parking spaces are assigned and color coded to organized containers and chassis within the rail yard. The inventory of container location and chassis information is entered into the computer system upon entry into the facility and is updated whenever a container is moved within the yard. Additional information downloaded into the OASIS system includes container number, destination, size and weight of each container.

The ICTF is planning to double its size and capacity to increase the number of containers processed at the facility. This expansion plan would include the reconfiguration of rail tracks to allow for simultaneous movement and to provide two access points from/to the Alameda Corridor.

Rail yard operators develop and build their path of travel and delivery schedule based on the final destination of the containers. When a train is built, containers are organized in rail cars in the order of final destination, so that rail cars can be unlinked and released at their respective destinations. The primary need expressed by intermodal yard operators is to know the destination of a container and the number of containers before its arrival at the rail yard. Knowledge of the daily volume of containers and their destinations would allow yard operators to maximize scheduling and delivery operations.

TM1.4.3 Summary of Existing and Planned Transportation Conditions

An important need noted by the private sector is to have a port-wide appointment system to organize the equipment to locate and prepare all cargo for truck-borne dispatch as trucks queue outside marine terminals gates between trucking industry and ports. Currently, there are multiple appointment systems (eModal and VoyagerTrack), and different rules and constraints are used by the terminals in the Ports of Los Angeles and Long Beach. The appointment systems currently in place have effectively helped the terminals in avoiding fines, however, inefficiencies in the systems may not have limited idling – which was the goal of the program. Truckers who use the Ports need to be familiar with two systems and multiple rules and constraints in order to service multiple terminals. Since two Port Authorities have little direct contact with the truck industry, a central consortium such as a Reservation Systems Focus Group or Steering Committee, may be needed to facilitate coordination between the different stakeholders (terminals, ports and drayage companies.)

The Ports’ initiative to provide accurate and real-time data for appointment systems could promote an increased usage of the appointment systems. A port-initiated policy to require use of appointment systems may create a necessary communications link between the Port and the driver of the truck that could facilitate additional information sharing such as travel time information and congestion data.

In September 2006, the Port of Vancouver (BC, Canada) issued a notice to truckers that there would be a mandatory reservation system for truckers to use for access to the Port. This formal policy was put in place to enhance operational efficiencies, reduce truck turnaround times, and enforce the Truck Licensing Agreement at the Port. If the Ports of LA and Long Beach implement a similar standardized appointment/reservation system, it would require coordination...
with the terminal operators. A policy such as this should be tied directly to specific performance expectations in order to achieve desired results.

**TM1.5 SUMMARY OF NEEDS AND GAPS**

Numerous studies and planning efforts by agencies within the Gateway Cities subregion and surrounding areas were reviewed to identify freight issues and needs that ITS technologies or integration activities could potentially address. There is already a substantial foundation of infrastructure and information sharing networks in place to facilitate the short-term expansion of priority systems as well as new programs. This Integration Plan identifies the key transportation issues and needs from a goods movement/private sector perspective and from the public agency vantage point. This review will identify where gaps in current agency plans, systems, and processes, either due to project design or, in most cases, due to timing or funding constraints that can more effectively address the increased demand of freight on the region’s transportation network.

It is important to note that ‘needs’ in this Integration Plan do not necessarily translate to more ITS infrastructure deployed on the regional transportation network. While technology provides opportunity to improve freight traffic flow and increase travel speeds, many of the solutions that may be derived from the needs and gaps noted in this report may likely be related to operational changes, partnership agreements with the private sector and additional connectivity among existing systems.

Because of the complex nature of moving such large amounts of freight traffic with a finite roadway capacity, many of the needs identified in this section are about increasing efficiency within the currently constrained network. To do this, agencies need to consider what information needs to be provided to private fleet companies and how to best provide them with information in order to allow them to make business decisions. Agency operational decisions are one issue, but agencies also need to factor in how congestion equates to delay which then impacts private operations, severely impacting the overall network.

The following sections outline freight/goods movement needs and issues that factor into future deployment, integration, planning and overall transportation network operations for the following five categories:

- Real-time Traveler Information
- Deployment and Integration of Field Infrastructure
- System Integration
- Goods Movement
- Policy/Institutional Needs
Real-time Traveler Information

- There is a strong need for information to be provided to trucks and dispatchers, accessible via phone (511), web and in-vehicle systems. The information that is most needed differs in some cases from what is currently available: trucks need information about current turn times at terminals and real-time, proactive rerouting based on current traffic conditions on the network, including allowable arterial truck routes. Traveler information needs to look beyond traditional delivery mechanisms while bolstering existing methods (such as radio communications) to meet the needs of the goods movement industry. There needs to be a focus on providing more robust and precise/real data (arterial, freeway, incident, weather, multimodal) to the freight users in real-time (less than 10 minutes). Public sector needs to play a role, but there needs to be business model options to involve the private sector as well.
- A critical need is to identify freight-specific traveler information needs, and the preferred ways to deliver that information. Data will likely be generated from multiple sources, both public and private.
- Traveler information business models need to look at the range of potential partnerships to support data collection, data fusion, dissemination, and accessibility. The public sector alone will not be able to meet the diverse demands of the goods movement customers, nor should public sector agencies be expected to have sole responsibility for developing new and innovative approaches.

Deployment and Integration of Field Infrastructure

- Additional monitoring infrastructure on freight-critical corridors (I-710, I-110, SR91, I-605 and key allowable arterial truck routes) is needed, including cameras and detection. There also needs to be a mechanism to share that information with those agencies and operators who need it. Systems are planned and expanding (RIITS, IEN), but additional links and interfaces need to be identified. There is a lot of value in sharing video, but that requires human interpretation, and is not considered an automated exchange, nor can it automatically provide an alert.
- Need accurate truck volume counts for real-time operations and decision making, as well as longer-term planning. Accurate counts for typical truck volumes, identifying truck-specific peak travel periods, and documenting those trends over time will provide valuable planning insights to local and regional agencies.
- There is a need to explore opportunities for innovative real-time data collection on key freeway corridors to fill gaps where public agency owned infrastructure does not exist or is not providing the needed conditions information. Some trucks are equipped with on-board automatic location devices, which could establish an ad-hoc network of probes if the right roadside equipment was deployed or if partnerships were established with freight companies that use AVL to track their vehicles. Several private sector options are also available for data collection and emerging technologies, including both infrastructure-based and non-infrastructure-based (aggregated probe data) options. If the public sector is financially not able to deploy and maintain data collection infrastructure for the key corridors where it is needed, partnerships can be established to supplement current agency-owned systems. Several states are deploying pilot programs with private sector data collection companies (Wisconsin, I-95 Corridor Coalition), that provide valuable lessons learned about this model.

System Integration

- Automated links among data collection systems to the Ports need to be extended. Port operations centers need to be able to quickly assess the external transportation networks, and this data needs to be ‘pushed’ to the Port operations centers through automated links in real-time. Because several distribution centers/transfer points are located outside of the Gateway Cities subregion, interfaces with neighboring Caltrans districts (and other subregions) are needed for seamless freeway monitoring and interjurisdictional continuity.
Goods Movement

- An important need cited by trucking companies was to improve efficiencies (reduced turn times) at terminal and intermodal facilities through electronic access or some other technology that would reduce the waiting times at terminal or intermodal gates. The trucking industry needs real time information on turn-times for projected delays inside marine terminals and intermodal yards at the two Ports so they can plan their schedules and operation more efficiently.

- There needs to be a direct link between transportation management agencies and the goods movement industry (both vehicle and dispatch) to provide real-time and two-way information exchanges. This would support timely notification of major delays on roadways, incidents, detours, and emergency information (port closures, security restrictions, etc.). Ideally, such a link would enable critical information (such as major incidents or closures) to be automatically ‘pushed’ or be available to trucks, rather than rely on operations staff searching one of several sources.

- There is a need for multi-lingual information for truck drivers, many of whom speak English as a second language. This includes alerts and travel time information on freeway message signs.

- The railroads need to know when the trucks are leaving the ports, approximately what time they will arrive, and what the final destination is for the containers they are carrying. This can help reallocate labor and build the trains more efficiently.

- A standardized, Port-wide appointment system tied directly to performance outcomes (requiring that idling be reduced overall, for example, and a measurement system put in place to show the results) to organize the equipment to locate and prepare all cargo for truck-borne dispatch as trucks queue outside marine terminals gates between trucking industry and ports may be of value. A central consortium such as a Reservation Systems Focus Group or Steering Committee would facilitate coordination between terminals, ports and drayage companies.

- There is a need for more truck inspections and weight monitoring in the subregion. Challenges related to available real estate for locating inspections sites and scales mean that solutions will likely rely heavily on technology that would automate and manage such a system.

Policy/Institutional Needs

- There needs to be improved coordination for real-time operations strategies – particularly between state and local agencies. Identifying critical corridors and interchanges with significant freight volumes will help agencies prioritize the types and location of ITS and other improvements to aid in managing freight traffic, balancing freight traffic across the networks.

- There is currently an inconsistency in weight enforcement in the region. When overweight trucks are identified, citations are issued (usually by CHP) and local jurisdictions process the citations and determine fees. Fees are then paid to the local jurisdiction. There is not an apparent connection between CHP as the operator, Caltrans and local jurisdictions as funding agencies for roadway infrastructure, the [inconsistent] fee and payment structure, and where the collected fees are ultimately allocated. Policy change that more closely aligns these components can have a major, positive impact on the system.

- Caltrans has a key initiative to involve the private sector in implementing traveler information using ITS. Agencies in the Gateway Cities subregion can consider adopting a similar policy for freight. Involvement of the private sector is essential when considering future transportation enhancements or priority programs in the region. To date, it has been difficult to get and maintain private sector input during planning processes because of the number of trucking companies, railroad companies, and distribution and warehouse operations, and their widely varied operating procedures and needs. The reality is that some of the much needed coordination or technology initiatives may not be able to be led by the public sector – many potential solutions may result in private-private partnerships or private-sector led initiatives.
- There is a need to elevate the priority of freight companies as a customer base within the public sector mindset and planning processes commensurate with the way passenger vehicles are considered. Incentives or guidelines for public agencies to effectively incorporate freight issues and considerations into local, regional and state capital improvement programs can mitigate this. Regional plans do include freight, but there is often limited direct connectivity between freight and public sector systems. While these plans provide one avenue for factoring freight into the regional transportation vision, there needs to be a better means of truly integrating freight oriented projects and programs into regional transportation approaches.

These needs have been further summarized below to provide a quick glance at the needs and gaps captured from a goods movement perspective and from the public agency vantage point.

**Real-time Traveler Information**
- Information to be provided to trucks and dispatchers
- Freight-specific traveler information needs
- Potential partnerships to support traveler information

**Deployment and Integration of Field Infrastructure**
- Monitoring infrastructure on freight-critical corridors
- Accurate truck volume counts
- Real-time data collection on key freeway corridors and arterial highways

**System Integration**
- Links among data collection systems to include the Ports

**Goods Movement**
- Improve efficiencies at terminal and intermodal facilities through electronic access and information
- Communication link between transportation management agencies and the goods movement industry
- Standardized, Port-wide accurate appointment (or reservation) system
- More truck inspections and weight monitoring facilities
- Multi-lingual
- Container destination and truck arrival information to the railroads.

**Policy/Institutional Needs**
- Coordination for real-time operations strategies
- Uniform weight enforcement in the region
- Private sector involvement to enhancement freight traveler
- Incentives or guidelines for public agencies to effectively incorporate freight issues

**TM1.6 Next Steps**
The next task will use the identified needs and gaps as a foundation for defining potential ITS and system integration solutions that meet the needs of freight and goods movement stakeholders. Strategies
for agencies to integrate and prioritize freight-focused initiatives within their local and regional programs will be identified in Technical Memorandum 2. The projects and strategies will focus on system enhancements and institutional and partnership strategies intended to advance the priority of improvements that will address the needs of freight and goods movement stakeholders.
GATEWAY CITIES
ITS INTEGRATION PLAN
FOR
GOODS MOVEMENT

Technical Memorandum No.1
Inventory, Existing Conditions, and Needs Assessment

APPENDICES
Appendix TM1-A – Glossary

**Automatic Vehicle Location (AVL)** – Is a technology to determine the geographic location of a vehicle and transmits that information to a user or central system.

**Changeable Message Signs (CMS)** – Electronic signs are used to disseminate incident information, corridor travel times and to inform traveler of upcoming freeway closures or restrictions.

**Closed-Circuit Television Cameras (CCTV)** – Video camera used for security surveillance and traffic monitoring.

**Drayage** – Transportation of freight including all documentation involved in the import and export of goods.

**eModal** – An electronic information system that provides a variety of services including detailed container, vessel, terminal information and a trucker status service.

**Intelligent Transportation Systems (ITS)** – ITS is using technology to improve safety and maximize the productivity of the transportation network. ITS refers to various applications such as electronic roadside signage providing information about detours or traffic incidents, or electronic credentialing systems which allow enforcement agencies to obtain shipment inventories and driver credentials efficiently while a truck is en-route.

**Information Exchange Network (IEN)** – Is a networking system that uses Common Object Request Broker Architecture (CORBA) and interface definition language (IDL) to share information and control traffic systems in the Los Angeles County region. The primary focus of the system is center-to-center exchange of arterial traffic control data and incident management data.

**Regional Integration of ITS (RIITS) Network** – Is a multi-modal, web-based communications network that supports information exchange between freeway, arterial, transit and emergency service agencies in Los Angeles County and provides this data in real-time. RIITS also provides traveler information data.

**Optical Character Recognition (OCR)** – Technology used to convert written letters into a format that a computer can use. One application of OCR at the Ports is reading container numbers into a computer system to track cargo for truck pickups and deliveries.

**Performance Measurement System (PeMS)** – Is a database of real-time and historical vehicle detector data operated by University of California at Berkeley from all freeway management systems operated by Caltrans’ twelve Districts.

**PierPASS** – Non-profit established by the Ports of Los Angeles and Long Beach to manage and improve truck movements, to address congestion and improve air quality by reducing the number of idling trucks and driver’s waiting time. One program that is part of PierPASS is “OffPeak”, which is a program that encourages off-peak truck trips by charging a fee to trips made in the peak hour to fund extended terminal operations in off-peak hours.

**PrePass** – PrePass is an automated system allowing commercial vehicles to legally bypass open weigh stations if the vehicle is registered to the program. This system uses transponders, located inside the vehicle, to communicate with commercial vehicle enforcement facilities.

**Systems** – A group of elements (for example, a group of field devices, software, or technologies) which work together to achieve a given function.
Traffic Management Center (TMC) – Receives data from field devices, signal systems, and other agencies to manage the transportation network and send information to other agencies or devices.

Twenty-foot Container Equivalent Units (TEU) – An equivalent unit of measurement for cargo containers. A TEU is one standard 20 ft (length) × 8 ft (width) × 8’6” ft (height) container.

VoyagerTrack – An electronic system that provides a variety of services including, gate activity, demurrage payment, import/export status, vessel schedules and an appointment system.

Weigh-in-Motion (WIM) – Provides 24-hour traffic information at key locations on California highways. The information collected at each station includes axle weight and gross weight, axle spacing, vehicle classification, and speed. The information gathered from the stations is used for pavement studies, highway monitoring and capacity studies, accident rate calculations, and analysis of truck transport practices.
Appendix TM1-B – Annotated Summary of Reports

SUMMARY OF REFERENCE DOCUMENTS

This appendix summarizes several of the plans and reports that have been used as resources in the development of this report. These references are organized into the following categories:

AIR QUALITY STUDIES.................................................................................................................. TM1-40

GATEWAY CITIES COUNCIL OF GOVERNMENTS ................................................................. TM1-40

GOODS MOVEMENT COORDINATION AND IMPROVEMENT EFFORTS ............................. TM1-40

POLA/POLB EXISTING AND FUTURE CONDITIONS.............................................................. TM1-41

OTHER PORTS’ PRACTICES IN TECHNOLOGY APPLICATION .............................................. TM1-43

REGIONAL ITS INTEGRATION EFFORTS .................................................................................. TM1-44

REGIONAL INTEGRATED CORRIDOR MANAGEMENT .............................................................. TM1-45
AIR QUALITY STUDIES

Evaluation of Port Trucks and Possible Mitigation Strategies, California Environmental Protection Agency Air Resources Board, Stationary Source Division, Project Assessment Branch (April 2006). This report analyzes air quality impacts and presents recommendations for reducing emissions from heavy duty diesel trucks dedicated to goods movement at the Ports of Oakland, Long Beach, and Los Angeles.

Gateway Cities and Port of Long Beach Clean Air Program Business Plan, Gateway Cities Council of Governments and Port of Long Beach (June 2003). This report discusses the Clean Air Pilot Program, operational since September 2002 at the Port of Long Beach and in the Gateway Cities subregion. This study includes discussion of the emissions reduction program to reduce emissions of oxides of nitrogen (NOx) and particulate matter (PM) from diesel-fueled vehicles, cost effectiveness, communications activities of the program, and implementation and lessons learned since the program has started.

Proposed Emission Reduction Plan for Ports and Goods Movement in California, California Environmental Protection Agency Air Resources Board (April 2006). The California EPA Air Resource Board released this report to identify and initiate actions necessary to reduce emissions from heavy-duty diesel trucks and protect public health.

GATEWAY CITIES COUNCIL OF GOVERNMENTS

Gateway Cities and Surrounding Areas Intelligent Transportation System (ITS) Strategies, BGM Consulting (June 2005). This report explores ITS strategies to provide solutions for traffic alleviation, safer freeways for travelers, improved roadways, and improved traveler data sharing in the Gateway Cities area. The study identifies and outlines the types of traveler information that need to be gathered and outlines various information sharing technologies.

The Gateway Cities and Surrounding Areas Intelligent Transportation System (ITS) Research and Strategies for Transportation and Goods Movement Study, Gateway Cities Council of Governments for the Southern California Council of Governments (December 2005). This study explores ITS planning, design, implementation and operations in the Gateway Cities area to improve the congestion, create safer freeways for travelers, decrease roadway damage, and improve traveler information sharing for the area. This study found that there is a need for ITS real time information, including data gathering and processing, and dissemination of instructions and notifications to drivers due to delays.

Truck Fleet Communications Pilot Demonstration Program, Gateway Cities Council of Governments (DRAFT October 2007). Gateway Council of Governments is developing a project to address transportation problems including, congestion, traffic alerts, emergency communication and reduce impacts of Port and Rail congestion, by using technology to include communication and coordination between truck drivers.

GOODS MOVEMENT COORDINATION AND IMPROVEMENT EFFORTS

California Statewide Goods Movement ITS Action Plan Task 1 Goods Movement ITS Inventory Report, Booz, Allen & Hamilton Inc. (September 2002). This plan provides goods movement ITS strategies for the public sector. It identifies funding sources and develops recommendations for commercial vehicle, rail, air cargo, and maritime operations. Recommendations also encompass the major corridors and infrastructure related to trade in California.

Empty Ocean Container Logistics Study, The Tioga Group, (May 2002). This report studies the imbalances of empty container flow within the Ports of Long Beach and Los Angeles and technologies
that can be used to identify empty containers for reuse outside the port areas. This report discusses the concept of a virtual container yard.

**Goods Movement Action Plan Phase I: Foundations, The Business, Transportation and Housing Agency and The California Environmental Protection Agency (January 2005).** The report outlines an evaluation scheme that may potentially be used to assess proposed infrastructure and environmental mitigation strategies as related to California’s good movement industry.

**Gateway Cities Truck Traffic Impacted Intersections, Phase 1 Project Categorical Exemption Report (August 2003).** Gateway Cities Council of Governments proposes roadway improvements for 18 intersections within the Gateway Cities area. Improvements include sidewalk, curb, gutter, median, bus pad, widening curb radii, and upgrading traffic signals.

**National I-10 Freight Corridor Study: Technical Memorandum No. 3 Existing Technologies and Planned ITS Applications, Wilbur Smith Associates (February 2002).** This study is a joint effort by eight state departments of transportation including California, Arizona, New Mexico, Texas, Louisiana, Mississippi, Alabama, and Florida. The purpose is to analyze current and projected freight movements, assess how future freight volumes impact national and local transportation systems, and develop strategies for improving freight flow along the I-10 corridor.

**The Alameda Corridor – East IR/RIS Demonstration Project – Applying New Technologies to Manage Grade Crossing Traffic, Alameda Corridor-East Construction Authority and Korte Engineering, Inc. (July 2003).** This report outlines a pilot program in Pomona to utilize ITS technologies to improve train control and detection in monitoring traffic and reduce motorist delay.

**Southern California Freight Management Case Study, Caltrans, Metropolitan Transportation Authority, and Southern California Associations of Governments, (January 2002).** This is a study prepared for the Office of Freight Management and Operations of the Federal Highways Administration (FHWA). This study examines freight transportation needs in Southern California. The study included planning, funding and coalition-building recommendations to address freight movement. Planning solutions include adopting guidelines consistent with statewide guidelines and regulations, including freight movement needs in long term transportation plans and prioritizing freight projects. Funding recommendations consist of balancing private and public sector funding sources, identifying freight movement specific programs, and using state and federal funding for ITS projects to improve truck communication networks. Coalition-building recommendations include: developing a freight advisory committee with multi-jurisdictional representatives and having joint consensus in freight improvements.

**Southern California Regional Strategy for Goods Movement: A Plan for Action, Southern California Associations of Governments (March 2005).** This report outlines and develops needs, principals and strategies associated with goods movement in the Southern California region to improve the freight industry.

**PORT OF LOS ANGELES (POLA) / PORT OF LONG BEACH (POLB)**

**EXISTING AND FUTURE CONDITIONS**

**A Study of Drayage at the Ports of Los Angeles and Long Beach, Department of Economics – California State University Long Beach (December 2004).** Provides research and insight into the port drayage industry such as detailed information on both the drivers and the firms. The study adopted three sources of data: a comprehensive data set of socioeconomic characteristics of 175 port drivers, an operational survey of 32 drayage companies, and a sample of truck turn times from three medium-sized port drayage companies.
California Marine Transportation System Infrastructure Needs, California Marine and Intermodal Transportation System Advisory Council, Northern California Marine Transportation Advisory Council, and Southern California Marine Transportation Advisory Council (March 11, 2003). This white paper focuses on the economic significance of the ports and supporting inland transport systems in California.


Creating Multi-Port Platforms, eModal (The Virtual Box Conference, September 2002). Provides descriptions of all software modules of eModal which was designed and developed as a single-source website system for the Port Community.

Evaluation of the Terminal Gate Appointment System at the Los Angeles/Long Beach Ports, School of Policy, Planning and Development – University of Southern California (Draft Final Report, March, 2006). This report presents an evaluation of the terminal gate appointment system at the Los Angeles/Long Beach ports. Results are based on extended interviews, field observations, a trucking company survey, and data provided by selected terminals.


North Pacific Rim Trade Corridor Study Final Report, GHK Consulting (April 2007). The Report presents analysis of flows and patterns of Pacific Rim trade to 2050 with relative emphasis on the next 25 years – in broad terms the demand side. In terms of the supply of sea/port/rail infrastructure and services, the report provides a broad capacity analysis of North American gateways and the challenges and constraints that may emerge over the period to 2024/5.

Ports of Long Beach/Los Angeles Transportation Study, Port of Long Beach (TRB, 2003). The study is a comprehensive and area wide analysis of the two Ports, which employed disciplines of logistics, transportation planning, traffic engineering and civil engineering. The study also includes detailed analyses within and immediately adjacent to the Port area, and a regional transportation access analysis.

Port of Los Angeles Port-wide Transportation Master Plan, Port of Los Angeles (National Urban Freight Conference 2006, February 1-3, 2006). Highlights the implications of international goods movement as it relates to the port transportation system as well as the potential transportation improvements, which were developed and evaluated to address those implications while minimizing impacts on surrounding communities.

Port of Los Angeles Baseline Transportation Study, Meyer, Mohaddes Associates (April 2004). The study includes analysis of existing and future vehicular traffic demand (Years 2010 and 2025), transportation system deficiencies, and necessary improvements.
**Port and Modal Elasticity Study Final Report, Leachman & Associates LLC (September 2005).** Analyzes the long-run elasticity of port demands as a function of access fees, determining what levels of fees would induce traffic diversion to other ports or induce shifts in modal shares (truck vs. rail) at the San Pedro Bay (SPB) Ports.

**Southern California Goods Movement Challenge, Opportunity, Solution, Southern California Association of Governments (August 2007).** This paper documents the Southern California Association of Governments’ strategy for addressing the enormous growth in goods movement that Southern California is experiencing while also mitigating its negative impacts.

**Terminal Appointment System Study, Roche Ltée, Groupe-conseil and Levelton Consultants Ltd. (March 2006).** This study reviews programs and technologies currently applied primarily at North America west coast ports to reduce the impact of GHG associated with terminal drayage activities.

**Terminal Opportunities & Challenges, NYK Line (April 2006).** The presentation summarizes the forecasted capacity utilization rates (container throughput vs. port capacity) of the major ports in North America from 2005 to 2010.

**The Ports of Long Beach / Los Angeles Advanced Transportation Management Information System – Concept of Operations Final Draft V 1.3, Siemens ITS (October 2007).** Identifies the Concept of Operations which represents the Advanced Transportation Management Information System (ATMIS) stakeholders’ envisioned day-to-day conditions and operational activities during the use of ATMIS. The development of the Concept of Operations also describes the existing systems, communications infrastructure, climate, terrain and expected regional growth in freight traffic.

**The Ports of Long Beach / Los Angeles Advanced Transportation Management Information System – System Architecture and Standards Report Draft, Siemens ITS (July 2007).** Presents the proposed system architecture for ATMIS, describes how it is compliant with National ITS Architecture, and identifies relevant national standards.

**The Virtual Container Yard: Reducing the Operational and Environmental Costs of Container Management, International Asset Systems (November 2006).** Provides an overview of “Virtual Container Yard” (VCY) technology which is already in operation at Los Angeles and Long Beach.

**Trade Impact Study Final Report, BST Associates (March 2007).** Estimates the latest economic impact of containerized trade that moves through the two ports: Los Angeles and Long Beach.

**Vancouver Ports Task Force – Survey of Best Practices in Port Trucking Operations Final Report, IBI Group (October 2005).** Examines and reports on best practices at other ports and how they may apply to address transportation and related industrial relations issues affecting the owner-operator truckers and trucking operators. The geographic scope of best practices survey conducted includes the following ports: Montreal, Halifax, New York/New Jersey, Miami, Houston, Seattle, Tacoma, Oakland, Los Angeles/Long Beach, Antwerp, Rotterdam and Singapore.

**OTHER PORTS’ PRACTICES IN TECHNOLOGY APPLICATION**

**Multi-Client Port Access Project Final Report Cambridge Systematics and Parsons Brinckerhoff Quade & Douglas, Inc. (September 2003).** This Report identifies the types of ITS and information technology used by ports in addressing waterside and landside access trends and issues and provides examples of technology deployments at ports and terminals within the U.S. and the rest of the world.

**Strategic Trucking Program Overview, Port of Vancouver (January 2006).** Provides an overview of the Strategic Trucking Program in Port of Vancouver, which was recommended to identify and resolve the systemic operational issues that result in inefficiencies in trucking and truck operations. The
Program encompasses the following components: Truck Licensing System, Extended Gates Program, Truck Monitoring Program, Automatic Vehicle Location Program, Reservation System Project, Stakeholder Committees, and Reporting and Communications.

*The Use of Intelligent Transportation Systems Technology in Marine Ports, I-95 Corridor Coalition (March 2007).* This white paper highlights key trends and issues currently being faced by ports and terminals and describes potential information system and ITS solutions that have been implemented in response to those trends.

**REGIONAL ITS INTEGRATION EFFORTS**

*LACMTA Regional Integration of Intelligent Transportation Systems (RIITS) Task 2.2 regional Communication Inventory Report, National Engineering Technology Corporation and Sarakki Associates (March 2003).* This report is an inventory of communication systems and infrastructures used by local agencies, and information on existing conditions in Los Angeles County to be used for planning and design of a regional communications network.

*LACMTA RIITS Task 3.2 Los Angeles County ITS Integration Master Plan, National Engineering Technology Corporation (October 2002).* The purpose of this report is to provide background information to be used in the development of the Regional Integration of Intelligent Transportation Systems (RIITS) network for Los Angeles County.

*LACMTA RIITS Task 3.5 Integration Phasing Plan, National Engineering Technology Corporation (August 2004).* This report has two goals; to explain the approach associated with the RIITS Target Baseline deployment, and, to revise requirements define by the previous *RIITS System Requirements Specification* (SRS).

*LACMTA RIITS Task 2.6 Outreach Plan, Marketing Package and Outreach Documentation, National Engineering Technology Corporation and PB Farradyne (August 2004).* The goal of this report is to document and discuss the various steps involved to develop the institutional policy components of the RIITS project.

*Los Angeles County Regional ITS Architecture, National Engineering Technology Corporation and Meyer, Mohaddes Associates (October 2004).* The Regional ITS Architecture provides a framework for the deployment of ITS applications. It is meant to act as a blueprint within which the regional deployment of ITS can occur. The Architecture incorporates the existing and planned ITS projects and provides a roadmap for future deployment.

*Los Angeles County Arterial Intelligent Transportation System (ITS) Inventory and Architecture Project, Meyer, Mohaddes Associates, (October 2004).* The Los Angeles County Arterial ITS Inventory and Architecture Project was completed: (1) to perform a complete inventory of ITS projects in Los Angeles County, (2) use Turbo Architecture to create an ITS architecture for the county, and (3) integrate arterial ITS planning with the ITS architecture for the region.

*Inland Empire Regional Intelligent Transportation Systems (ITS) Architecture, Final Report, Iteris (June 2003).* The Inland Empire Regional ITS Architecture provides a framework that includes the vision for the future deployment of ITS applications in the region. It incorporates the existing and planned ITS projects, and provides a path to be followed as new projects are conceived, designed, and deployed.

*Southern California Regional ITS Architecture, National Engineering Technology Corporation, (April 2005).* The Southern California Regional ITS Architecture builds on the five southern California county-level architectures: Inland Empire (Riverside and San Bernardino), Imperial, Los Angles, Orange, and Ventura. It focuses on inter-county services, including goods movement.
REGIONAL INTEGRATED CORRIDOR MANAGEMENT

Alameda Corridor Transportation Authority Projects, Source: <http://www.acta.org/>

- **The Shuttle Train Pilot Program** analyzes the need to develop a short-haul rail line as an alternative to trucking cargo short distances from the ports to inland distribution centers and storage facilities.

- **SR-47 – Port Access Expressway** is a 2.2 mile-long Port Access Expressway to create a direct route from local warehouses to transportation corridors to improve air quality and reduce congestion.

- **Inland Truck Depot(s)** to be developed and used by truckers to temporarily park their cargo containers during off-peak hours.

**Atlantic Boulevard/I-710 Corridor Advanced Traffic Management System Improvement Project, Siemens ITS (N/A).** The goal of this project is to design, develop, and deploy Advanced Traffic Management Systems (ATMS) in the Atlantic Blvd/I-710 corridor so that the signals in the project area can be synchronized across the jurisdictional boundaries.

**Gateway Cities Traffic Signal Synchronization and Bus Speed Improvement Project Atlantic Boulevard/I-710 Corridor Initial Concept of Operations Report, Siemens ITS, (Draft September 2004).** This project will result in arterial infrastructure improvements along the I-710 corridor in the Gateway Cities area. The project area includes 642 intersections in 15 different jurisdictions. The objective of this project is to design, develop and deploy traffic control systems in the corridor so that the signals along the Atlantic Blvd./I-710 Corridor can be synchronized across the jurisdictional boundaries.

**Gateway Cities Traffic Signal Synchronization and Bus Speed Improvement Project I-5/Telegraph Road Corridor Recommendations Report for Local City Control Sites, Siemens (Draft May 2003).** The goal of this project is to design, develop and deploy traffic control systems in the corridor such that the signals along the I-5/Telegraph Road can be synchronized across the jurisdictional boundaries.

**Gateway Cities Traffic Signal Synchronization and Bus Speed Improvement Project I-5/Telegraph Road Corridor Stakeholders’ Operational Objectives and Individual City Reports (Expanded Area) Draft Corridor Initial Concept of Operations Report Draft, Siemens ITS (June 2003).** The I-5/Telegraph Road Corridor consists of 277 intersections in 10 different jurisdictions. The objective of this project is to design, develop and deploy traffic control systems in the corridor so that the signals along the I-5/Telegraph Road Corridor can be synchronized across the jurisdictional boundaries.

**I-5 Corridor Commercial Vehicle Operations Project, Kimley-Horn and Associates, Inc. (March 2005).** This project establishes a communication link between I-5 JPA cites, L.A. County, and Caltrans to exchange data and support the dissemination involved in traveler information system to motorists.

**I-710 Major Corridor Study Purpose & Need Statement, Parsons Brinckerhoff & Quade & Douglas, Inc. (December 2001).** The I-710 Major Corridor Study was initiated in 2001 to analyze the traffic congestion, safety, and mobility problems along the I-710 corridor and to develop transportation solutions to address these problems. The study recommended a Hybrid Design Concept, which consists of improvements to mixed flow lanes, interchanges, truck lanes, and construction of truck inspection facilities. The projects recommended to be implemented are currently in the Environmental Impact Report/Statement (EIR/EIS) phase.

**Southeast Los Angeles County (Sr-91/I-605/I-405) Freeway Corridors Major Corridors Study, Proposal from Gateway Cities Council of Governments to Southern California Association of Governments (October 2006).** The objective of this study is to conduct a comprehensive evaluation of
the overall transportation system, prepare a PSR that is logically segmented for programming transportation projects, prepare pre-PSR documentation for selected high-priority projects, and create a tier-1 environmental document for the projects.
Appendix TM1-C – Summary of Key Projects/Programs

LIST OF PROJECT SUMMARIES

INTELLIGENT TRANSPORTATION SYSTEMS (ITS) AND INFORMATION TECHNOLOGY PROJECTS.... 49

ADAPTABLE RADIATION AREA MONITOR (ARAM) ................................................................. 49

ASPN ............................................................................................................................................ 49

AUTOMATED IDENTIFICATION VERIFICATION TECHNOLOGY (RADIO FREQUENCY
IDENTIFICATION, RFID)............................................................................................................. 49

AUTOMATIC VEHICLE CLASSIFIERS (AVC) IMPLEMENTATION ........................................... 50

AUTOMATIC VEHICLE LOCATOR (AVL) INFORMATION SHARING ....................................... 50

CALIFORNIA COMMERCIAL VEHICLE INSPECTION SYSTEM (CCVIS)............................... 50

COMMERCIAL VEHICLE INSPECTION FACILITIES ALONG I-710 CORRIDOR....................... 50

COMMERCIAL VEHICLE INFORMATION EXCHANGE WINDOW SYSTEM (CVIEW) ............... 51

COMMERCIAL VEHICLE INFORMATION SYSTEMS AND NETWORKS (CVISN) ..................... 51

COMMERCIAL VEHICLE-RELATED COMMUNICATION AND TRACKING .............................. 52

LA COUNTY INFORMATION EXCHANGE NETWORK (IEN) .................................................... 52

I-710 INSTALLATION OF COMMUNICATION SYSTEM AND CCTV SYSTEM....................... 52

I-710 PAVEMENT IMPROVEMENT PROJECT IN CITY OF LONG BEACH FROM NORTHBOUND
HARBOR SCENIC DRIVE ON RAMP TO 0.08 KM SOUTH OF PACIFIC COAST HIGHWAY
SEPARATION (TOTAL 2.1 KM) .................................................................................................. 52

AUTOMATED TRAFFIC SURVEILLANCE AND CONTROL SYSTEM (ATSAC) ......................... 53

PrePass ...................................................................................................................................... 53

REGIONAL INTEGRATION OF INTELLIGENT TRANSPORTATION SYSTEMS (RIITS)..................... 53

SAFETY AND FITNESS ELECTRONIC RECORDS SYSTEM (SAFER) ....................................... 54

VIRTUAL CONTAINER YARD (VCY) IMPLEMENTATION .......................................................... 54

VIRTUAL WEIGH AND COMPLIANCE STATIONS .................................................................. 54

WEIGH IN MOTION ..................................................................................................................... 55

511 ............................................................................................................................................. 55

PORT AND LOGISTICS FACILITY IMPROVEMENT PROJECTS ............................................. 56

ADDITIONAL ON-DOCK RAIL FACILITIES & IMPROVEMENTS ............................................. 56

ADVANCED TRANSPORTATION MANAGEMENT INFORMATION SYSTEM (ATMIS) .......... 56
INTELLIGENT TRANSPORTATION SYSTEMS (ITS) AND INFORMATION TECHNOLOGY PROJECTS

Adaptable Radiation Area Monitor (ARAM)

The ARAM system is an electronic data gathering system capable of identifying different types of radioactive materials. The system consists of four ground detectors and one overhead detector per location. ARAM software can be adjusted to minimize or maximize detection of specific targeted isotopes. Isotope information can be sent electronically to various entities throughout the United States for analysis. In addition, local authorities can be notified if the system detects the unauthorized transport of a radioactive material. All ARAM systems are operating with the latest identification software upgrades and area specific adjustments. ARAM is currently used in some California locations, and the California Highway Patrol (CHP) is currently working to develop a wider statewide network of ARAM. According to the CHP the network will allow real time display of data, system diagnostics and upgrades.

Lead Agency: California Highway Patrol
Location: California Statewide
Status: Existing and Planned


ASPEN

ASPEN is a software system that allows safety inspectors to electronically enter inspection reports at roadside facilities and forward them to state and national databases. Deployment of the ASPEN program to all inspection facilities was recently approved nationally.

Lead Agency: California Highway Patrol
Location: California Statewide
Status: Planned


Automated Identification Verification Technology (Radio Frequency Identification, RFID)

RFID and other smart-tag technologies allow port and terminal operators to verify identification of and authorized clearance for drayage operators and other transportation service providers doing business at the port. These applications significantly enhance port security and can improve gate clearance operations by allowing faster, more accurate identity validation, while meeting US Department of Homeland Security and US Coast Guard guidelines.

Lead Agency: Port of Los Angeles (POLA) and Port of Long Beach (POLB), PierPass, eModal
Location: Port of Los Angeles (POLA) and Port of Long Beach (POLB) Terminals
Status: Ongoing. The Ports will mandate that the RFID truck tags be in trucks requesting port access by December 2007. PierPASS is distributing the RFID tags through eModal, which then registers, activates, and tracks the tags.

<http://www.pierpass.org/press_room/releases/?id=57>

Automatic Vehicle Classifiers (AVC) Implementation
Caltrans Headquarters recently completed the preliminary evaluation of a new AVC technology that connects directly into the existing loop detectors and performs vehicle classification based on the measurement and analysis of axles of vehicles. According to the evaluation results of Caltrans, the classification is reasonably accurate for vehicles over 45 feet in length.

Lead Agency: Caltrans
Location: Caltrans Freeways around the Port of Los Angeles and the Port of Long Beach
Status: Planned

Source: One-on-One Meeting Minutes: Port of Los Angeles and Port of Long Beach, 7 August 2007.

Automatic Vehicle Locator (AVL) Information Sharing
SCAG is working to provide data sharing between law enforcement and the Long Beach Transit AVL system. This system can be used for both transit services and for homeland security.

Lead Agency: Southern California Association of Governments (SCAG).
Location: Long Beach
Status: Planned


California Commercial Vehicle Inspection System (CCVIS)
The CCVIS is a software system that allows electronic collection of data while an inspection is being performed. Information collected with CCVIS is electronically forwarded to California Highway Patrol (CHP) headquarters database and then to SAFETynet, a federal commercial vehicle information system database. The CHP currently conducts 70% of its inspections using CCVIS. The system has improved accuracy, timeliness of reporting, and has significantly reduced data entry time. Future expansions or improvements may include modifications for mobile road enforcement officer use. The system interfaces with the CHP Commercial Vehicle Section, Safety and Fitness Electronic Report (SAFER) system, and the Statewide Integrated Reporting System (SWITRS).

Lead Agency: California Highway Patrol (CHP)
Location: California Statewide
Status: Existing


Commercial Vehicle Inspection Facilities along I-710 Corridor
A study is underway to investigate potential locations for commercial vehicle inspection facilities within the Gateway Cities subregion. The Gateway Cities Council of Governments plans to develop at least one new inspection facility in the area, although the limited availability of land on which to develop the sites is a challenge in the area. The facilities may include virtual WIM and other ITS technologies. Information from these facilities would help to fill the data gap along I-710.

Lead Agency: California Highway Patrol (CHP)

Location: To Be Determined, within the Gateway Cities Subregion

Status: Planned


Commercial Vehicle Information Exchange Window system (CVIEW)

The Commercial Vehicle Information Exchange Window (CVIEW) system is a state-based electronic data exchange system that provides carrier and vehicle safety and credential information to fixed and mobile roadside inspection stations, state agencies, and other third party users.

Lead Agency: United States Department of Transportation (USDOT) Federal Motor Carrier Safety Administration (FMCSA)

Location: California Statewide

Status: Existing


Commercial Vehicle Information Systems and Networks (CVISN)

The CVISN program was established in the mid-1990s as a means to coordinate deployment of relevant ITS projects. The program focuses on three primary elements: 1) Safety Information Exchange, 2) Credentials Administration, and 3) Electronic Screening. Its purpose is to promote safety, enhance productivity and efficiency, and reduce operating costs in commercial vehicle operations by exchanging information electronically. The FMCSA manages the CVISN program.

Lead Agency: United States Department of Transportation (USDOT) Federal Motor Carrier Safety Administration (FMCSA)

Location: California Statewide

Status: Existing and Planned. According to the ITS JPO “As of June 2006, FMCSA had certified 14 states as having completed the deployment of core CVISN capabilities. In addition, 28 states are in the process of deploying core CVISN capabilities, with the majority having made significant progress on their safety and roadside capabilities”.

Commercial Vehicle-Related Communication and Tracking

Nextel cellular telephones feature a two-way radio communication and a Global Positioning System (GPS) tracking device used mostly as the communication between the dispatch hub and the commercial vehicle operator. Only a few trucking companies adopt the GPS tracking feature to better manage the fleets via geo-locations, origin-destination data and travel times, and Nextel is currently evaluating the potential use of GPS data in Traveler Information System applications.

Lead Agency: Trucking Companies and Drayage Service Providers
Location: California Statewide
Status: Existing


LA County Information Exchange Network (IEN)

The IEN project establishes a common network using Common Object Request Broker Architecture (CORBA) and interface definition language (IDL) to allow the sharing of information and the control of various traffic systems in the Los Angeles County region. The primary focus of the system is center-to-center exchange of arterial traffic control data and incident management data.

Lead Agency: Los Angeles County Department of Public Works (LADPW)
Location: LA County
Status: Existing and Planned. Cities currently online include the Cities of Pasadena and Inglewood. Cities pending to come online include the Cities of Los Angeles, Arcadia, Burbank, Glendale, and West Hollywood.

I-710 Installation of Communication System and CCTV System

The objective of the project is to install facilities for traffic monitoring system and CCTV system from Pacific Coast Highway to I-405. The current status of the project is ongoing.

Lead Agency: Caltrans
Location: I-710 from Pacific Coast Highway to I-405
Status: Completed in Spring 2008
Source: I-710 Corridor Summer 2007 Newsletter.

I-710 Pavement Improvement Project in City of Long Beach from northbound Harbor Scenic Drive on ramp to 0.08 km south of Pacific Coast Highway separation (total 2.1 km)

The project includes installation of conduit and loop detectors for future Intelligent Transportation System deployment. Pavement restoration, median barrier, loop detectors and conduit installation were combined into one project which is presently under construction.

Lead Agency: Caltrans
**Location:** I-710 from northbound Harbor Scenic Drive on ramp to 0.08 km south of Pacific Coast Highway separation

**Status:** Existing

**Source:** I-710 Corridor Summer 2007 Newsletter.  

**Automated Traffic Surveillance and Control System (ATSAC)**

The ATSAC is a traffic signal control system that monitors traffic conditions and system performance. The system uses field data collected in real time to select appropriate signal timing and perform equipment diagnostics and alert functions. As part of this process, signals can be automatically or manually updated. Data detection equipment includes loop detectors and CCTV surveillance equipment. The ATSAC is located at the Los Angeles City Hall.

**Lead Agency:** City of Los Angeles

**Location:** Los Angeles

**Status:** Existing

**Source:** <http://trafficinfo.lacity.org/index.html>

**PrePass**

PrePass is an automated system that allows commercial vehicles that are registered in the program to legally bypass open weigh stations. The system uses in-vehicle transponders that transmit carrier data to receivers located within commercial vehicle enforcement facilities. Currently 37 commercial vehicle enforcement facilities in California operate as PrePass sites, none of which are in the Gateway Cities subregion.

**Lead Agency:** Caltrans

**Location:** California Statewide

**Status:** Existing

**Source:** http://prepass.com/whatsprepass.htm

**Regional Integration of Intelligent Transportation Systems (RIITS)**

The Los Angeles County Metropolitan Transportation Authority (Metro) owns and administers the RIITS network. The RIITS network is a multi-modal, web-based communications network that supports information exchange in real-time between freeway, traffic, transit and emergency service agencies. RIITS establishes system-to-system links to automate the exchange of traffic control, work zone, transit vehicle locations and schedule adherence/performance, traffic, and incident information. This information is provided by existing public agency systems. Agencies currently connected to the RIITS network include Caltrans District 7, Metro (for transit information) and the City of Los Angeles. Efforts are underway to connect additional agencies including additional Caltrans Districts and Los Angeles County’s Information Exchange Network (described below). RIITS also provides data to private sector traveler information services in XML base files and will be the primary data source for the upcoming Los Angeles 511 system.
Location: Primarily Los Angeles County and Caltrans District 7, extending to adjacent Caltrans Districts

Lead Agency: Los Angeles County Metropolitan Transportation Authority (Metro)

Status: Existing and Planned

Source: <http://www.riits.net/>

Safety and Fitness Electronic Records system (SAFER)

The SAFER System is a component of ITS and CVISN architecture. The system offers company safety data over the internet. The SAFER System currently provides carrier, vehicle, and driver safety and supporting credential information to fixed and mobile roadside inspection stations.

Lead Agency: United States Department of Transportation (USDOT) Federal Motor Carrier Safety Administration (FMCSA)

Location: California Statewide

Status: Existing


Virtual Container Yard (VCY) Implementation

The POLB, together with the POLA and the Alameda County Transportation Authority (ACTA), launched a Virtual Container Yard program at the ports in July 2006. The program uses web-based technology to allow truckers to identify empty containers for reuse outside the Port areas. The technology can also be disseminated through mobile technologies such as truckers' cell phones and GPS units, in addition to the internet.

Lead Agency: Port of Los Angeles (POLA) and Port of Long Beach (POLB), Alameda Corridor Transportation Authority

Location: Ports

Status: In operation since July 2006


Virtual Weigh and Compliance Stations

Caltrans is currently researching the feasibility of implementing virtual weigh and compliance stations throughout the state. The initial test site on I-80 near Cordelia includes weigh in motion (WIM) sensors, cameras for side and front views, and remote monitoring capabilities. In the future, stations may include the ability to perform carrier and vehicle identification, verify credentials and truck dimensions, oversize/overweight permits, measure vehicle size and load weight, measure vehicle speed, verify lane use, and perform transportation permit verification, cargo checks, and security scanning. In addition to safety and commercial applications, data gathered at the virtual weigh and compliance stations may be used for homeland security purposes. Caltrans is still in initial development and planning stages of this project. To date, the proof of concept site has been tested. Caltrans anticipates installing additional sites throughout the state over the next ten years.

Lead Agency: Caltrans

Location: California Statewide
Status: Ongoing


Weigh in Motion

Within California, weigh in motion (WIM) stations provide 24-hour traffic information at key locations on California highways. The information collected at each station includes axle weight and gross weight, axle spacing, vehicle classification, and speed. The information gathered from the stations is used for pavement studies, highway monitoring and capacity studies, accident rate calculations, and analysis of truck transport practices. There are currently 85 WIM stations in California, none of which are in the Gateway Cities subregion.

Lead Agency: Caltrans

Location: California Statewide

Status: Existing


511

LA SAFE, a public agency affiliated with LA Metro, is in the planning and development stages of a 511 system, which will provide regional travel and traffic conditions information via an interactive voice response phone system (by dialing a national standard: 511) and the internet. 511 will pull data and information from the established data exchange networks (RIITS and PeMS) and provide this in a format that is useful to travelers. Whether 511 will provide freight-specific information has not yet been determined. There is a great opportunity to potentially tailor freight-specific information as a module of 511 – if Southern California 511 stakeholders take this on, it would be a benchmark among 511 systems around the country. It is likely, however, that this phase would be 5 – 10 years out or further, depending on the actual phasing of the project, which is currently behind schedule getting under contract and design has not yet commenced. To address the safety issues related to heavy truck operators requiring proactive devices and the need for carefully protected truck-specific data merged with the public traffic data, the basic system design of 511 would likely need to be altered from the outset. A second option to address this gap is to develop an interim or short-term solution that would combine a feed from 511 or RIITS to get what information is available and combine it with other data in a separate system. Furthermore, there would need to be some institutional and technical development efforts to be able to integrate terminal/port delay and turn time information – a high priority for freight – with regional transportation network data. Freight-specific information could be seen as a big incentive for trucking and cargo stakeholders. There is no freight-specific traveler information application currently available in the commercial marketplace, although this represents a unique niche market for potential private sector opportunity. Further exploration of solution concepts and alternatives will be provided in a subsequent report.

Location: Southern California

Lead Agency: LA SAFE, a public agency affiliated with LA Metro

Status: Planned

Source: LA SAFE 511 Request for Proposal
PORT AND LOGISTICS FACILITY IMPROVEMENT PROJECTS

Additional On-Dock Rail Facilities & Improvements

The Ports are planning a new on-dock rail facility at the TraPac Terminal. This new facility will eliminate approximately 200,000 truck trips per year by reducing the amount of cargo trucks from the Ports to nearby rail facilities.

*Lead Agency:* Ports of Los Angeles and Long Beach

*Location:* Ports

*Status:* Complete 2009

*Source:* <http://www.portoflosangeles.org/development_goods.htm>

Advanced Transportation Management Information System (ATMIS)

The system will provide video surveillance of streets in and around the Ports, video surveillance of gate queues, automated queue detection/monitoring, monitoring and management of incidents, center-to-center data exchange, and real-time traffic information. This information will be provided to truck drivers, truck companies and other motorists. Field elements will include CCTV cameras, Changeable Message Signs (CMSs), Highway Advisory Radio (HAR), vehicle detectors, automatic license plate readers, at-grade railroad crossing protection devices, weigh-in-motion scales, traffic signals, and ramp meters. These field elements will be located throughout the Cities of Los Angeles, Long Beach, and Carson, and at the Ports of Los Angeles and Long Beach.

*Cms*? Vehicle classification? Where will the field elements be?

*Lead Agency:* Port of Los Angeles (POLA) and Port of Long Beach (POLB)

*Location:* Ports

*Status:* November 2008

*Source:* <http://www.portoflosangeles.org/development_goods.htm>

Alameda Corridor Inland Truck Depot(s)

Working with private partners, the Alameda County Transportation Authority (ACTA) is facilitating the development of an inland truck depot(s) that will improve the transport of cargo throughout Southern California during off-peak hours. The inland truck depot(s) will be used by truckers to temporarily park cargo containers prior to being delivered to distribution centers during normal business hours. This innovative program will help alleviate port-related truck traffic on major highways by maximizing the use of extended gate hours at the port complex and it will help to accommodate the projected increases in cargo volumes.
Lead Agency: Alameda Corridor Transportation Authority
Location: Southern California
Status: Planned
Source: ACTC. <http://www.acta.org/projects_planning.htm>

**eModal**

eModal is an information system technology built as a commercial website (www.emodal.com), designed to improve efficiency and decrease congestion at container terminals. eModal provides: detailed container, vessel, terminal information and a trucker status service. eModal allows members to view container and booking status at participating terminals, pay terminal fees online with Fee Payment tool, register truckers in Trucker Check, and comply with Marine Terminals Security Facility Plans.

Lead Agency: Port of Los Angeles (POLA) and Port of Long Beach (POLB)
Location: Ports of Los Angeles and Long Beach
Status: Existing

**Intermodal Container Transfer Facility (ICTF) Expansion**

The Union Pacific Railroad (UPRR) has proposed to expand its existing Intermodal Container Transfer Facility (ICTF) near the harbor. The proposed expansion will increase ICTF’s capacity from 800,000 units to 1.65 million annually. UP is in the early stages of formulating an EIR document for this expansion. It is noted that residents in Wilmington and west Long Beach are concerned about the truck traffic generated by these near-dock facilities.

Lead Agency: UPRR
Location: Long Beach
Status: Planned
Source: Growth of California Ports: Opportunities and Challenges – An Interim Report to the California State Legislature, California Marine and Intermodal Transportation System Advisory Council (January 2006)

**Optical Character Recognition (OCR)**

Los Angeles and Long Beach port terminals have implemented OCR technology, which eliminates the need to type container numbers into the computer system. This expedites the trucks through terminal gates.

Lead Agency: Port of Los Angeles (POLA) and Port of Long Beach (POLB)
Location: Ports of Los Angeles and Long Beach
Status: Existing
Origin/Destination

The Ports of Los Angeles and Long Beach surveyed truck drivers to analyze the movement of containers in the Los Angeles area. Identifying the origins and destinations of the containers can be used to determine efficient warehouse locations and trucking routes.

**Lead Agency**: Port of Los Angeles (POLA) and Port of Long Beach (POLB)

**Location**: Ports of Los Angeles and Long Beach

**Status**: Completed 2005


PierPASS

PierPASS was created by marine terminal operators in order to mitigate congestion, pollution and noise from truck traffic by redistributing that traffic during the course of the day through port access fees. "OffPeak" is the PierPASS incentive program which charges per-container fees during nights and weekends. PierPASS also will require trucks accessing the Ports of Los Angeles and Long Beach terminals to be equipped with Radio Frequency Identification (RFID) tags by December 1, 2007 for automated authorization and identification verification.

**Lead Agency**: Marine Terminal Operators at the Port of Los Angeles (POLA) and Port of Long Beach (POLB) – terminal operators?

**Location**: Ports

**Status**: Existing

Source: <http://www.pierpass.org/>

Port Incident Management System (PIMS)

The PIMS or Port Incident Management System is a system of Changeable Message Signs (CMSs) connected by a system of wireline and wireless communications links, deployed at six sites throughout the port areas. The devices are intended to reroute traffic during incidents, and disseminate incident information in a timely manner providing greater coordination (through control by multiple agencies) while conserving police resources. Two site locations are along the I-710 and the I-110, the remaining four locations are along arterial streets. What are PIMS?

**Lead Agency**: Port of Los Angeles (POLA) and Port of Long Beach (POLB)

**Location**: Port of Los Angeles (POLA) and Port of Long Beach (POLB)

**Status**: Ongoing

Railroad Crossing Monitoring System

The monitoring system was implemented at Reeves Avenue since it leads to the Maersk Pier 400 Yard, which is the largest seaport container facility in the US and supports high train volumes and low truck volumes, at less than 1,000 vehicles per day. The system utilizes loop detectors to capture vehicle delay and cameras to watch vehicle queues, and records train identification if delays exceed 10 minutes. Audible and visual alarms are activated to warn that the crossing delay has exceeded the allowable threshold, and also to inform the motorists that the crossing delay is being monitored.

Lead Agency: Port of Los Angeles (POLA) and Port of Long Beach (POLB)

Location: Ports

Status: On-Going


Shuttle Train/Inland Container Yard

The Alameda Corridor Transportation Authority (ACTA) is planning to implement a rail shuttle service between the Ports’ on-dock rail facilities and a rail facility in Colton. The pilot program will consist of a daily train running between the Ports and the inland container yard in Colton, where the containers will be transported by truck to cargo owners’ facilities. This will help reduce the number of trucks on the freeways and improve truck driver turnover time. In the long-term, the ACTA hopes to create a permanent inland container yard location, added track capacity, and the ability to operate five shuttle trains per day.

Lead Agency: Alameda Corridor Transportation Authority

Location: Ports, Alameda Corridor

Status: Planned

Source: <http://www.acta.org/projects_planning.htm>

Southern California International Gateway (SCIG)

The Port of Los Angeles is developing a new near dock rail facility, which will be operated by Burlington Northern Santa Fe (BNSF). This facility will be used to handle port-related intermodal containers. The proposed site for this facility is Port of Los Angeles property north of Pacific Coast Highway, south of Sepulveda Boulevard and west of the SR-103. Once this facility is fully operational, it is expected that one million port-related trucks could be eliminated from the I-710 freeway per year. Trucks serving SCIG will be limited to traveling on specified non-residential truck routes and be equipped with GPS devices to monitor and enforce compliance.

Lead Agency: Port of Los Angeles (POLA)

Location: POLA

Status: Planned, 2009

Source: POLA. <http://www.portoflosangeles.org/development_goods.htm>
Terminal Expansion

The current announced, planned and potential terminal expansions of San Pedro Bay ports include:

- New terminals: Pier S (estimated 198 acres in Port of Long Beach). Pier S is scheduled to come on line in a 2008-2010 timeframe, and it is located on Terminal Island across from the Hanjin Pier T facility.
- Expansion of existing terminals
- Total POLA expansion potential 649 acres
- Potential net expansion of POLB: 414 acres to 514 acres
- Consolidation and reconfiguration of existing terminals

Lead Agency: Port of Los Angeles (POLA) and Port of Long Beach (POLB) and Terminal Operators

Location: Ports

Status: Planned

Source: North Pacific Rim Trade Corridor Study Final Report, GHK Consulting (April 2007)

Truck Fleet Modernization Communication Program Pilot Demonstration Project

This pilot demonstration project is a proposed public/private partnership between the Gateway Cities subregion and the private trucking industry. The project proposes to outfit truck fleets with two-way communication and location devices, directly capturing and aggregating truck tracking data while allowing truck drivers to receive real time traffic reports and emergency notifications. The project also includes panic buttons in the trucks for safety, as well as the ability for truck drivers to initiate and transmit alerts themselves pertaining to traffic, incidents (including hazardous materials incidents), and terrorism. Specific data types being considered include total truck run times, idle times, average speeds, average fuel consumption, and truck location.

Location: Gateway Cities Subregion

Lead Agency: Gateway Cities Council of Governments

Status: Planned

ROADWAY IMPROVEMENT PROJECTS (GOODS MOVEMENT-RELATED)

Gerald Desmond Bridge Replacement Project

A new bridge with expanded traffic capacity (from four lanes to six lanes) will be constructed. The new bridge will be relinquished to Caltrans and designated as SR 710. The capacity improvement will shift the Levels of Service from unacceptable F to acceptable D. **The proposed construction will begin in 2008 and end in 2013.**

*Lead Agency:* Port of Long Beach (POLB)

*Location:* Gerald Desmond Bridge, Port of Long Beach (POLB)

*Status:* Planned


I-110/SR 47 Connector Improvement Programs

The programs consist of the following roadway improvements:

- Fries Avenue Grade Separation (Design phase, Construction ends in 2009)
- I-110/SR 47/Harbor Blvd. interchange improvements (**Planning phase, Construction ends in 2009**)  
- C Street/I-110 access ramp intersection improvements (**Planning phase, Construction ends in 2010**)  
- I-110 NB Ramp/John S. Gibson intersection improvements (**Planning phase, Construction ends in 2010**)  
- SR 47 On-and-Off-Ramp at Front Street (Planning phase, Construction ends in 2012)
- These improvements aim to reduce delays and emissions, and improve safety and access.

*Lead Agency:* Port of Los Angeles (POLA)

*Location:* Various locations within I-110/SR 47 Corridor

*Status:* Planned

SR-47 Expressway/Schuyler Heim Bridge Replacement

The SR-47 Port Access Expressway project will build a four-lane elevated highway from Terminal Island to Alameda Street north of Anaheim Street and south of Pacific Coast Highway. This expressway is being designed to replace the seismically deficient Schuyler Heim Bridge with a fixed-span bridge that will connect the port complex to major highways and transportation corridors.

*Location*: Port of Los Angeles (POLA) and Port of Long Beach (POLB)

*Lead Agency*: Alameda Corridor Transportation Authority & Caltrans

*Status*: Planned

*Source*: <http://www.acta.org/projects_planning_SR47.htm>
Appendix TM1-D – Meeting Summaries

ONE-ON-ONE MEETING MINUTES

The following is a compilation of meeting minute notes from one-on-one meetings held by Kimley-Horn with stakeholders identified for the Gateway Cities ITS Integration Plan project. These meetings were convened to verify the status of current and planned Metro projects impacting goods movement specific to the Gateway Cities area and Southern California, and to solicit needs and gaps identified by Metro within the Gateway Cities area. These meetings were held over a three month period, and Kimley-Horn continues to meet with individual stakeholders and receive stakeholder input.

AUTOMOBILE CLUB OF SOUTHERN CALIFORNIA ................................................................. TM1-64
CALIFORNIA HIGHWAY PATROL, CHP .............................................................................. TM1-65
CALIFORNIA DEPARTMENT OF TRANSPORTATION, CALTRANS ............................. TM1-66
U.S. FEDERAL HIGHWAY ADMINISTRATION, FHWA ..................................................... TM1-68
I-95 CORRIDOR COALITION ................................................................................................. TM1-70
LOS ANGELES COUNTY DEPARTMENT OF PUBLIC WORKS (LA COUNTY DPW) ...... TM1-71
U.S. MARITIME ADMINISTRATION (MARAD) ................................................................. TM1-73
LOS ANGELES METROPOLITAN TRANSPORTATION AUTHORITY, METRO ............. TM1-75
TRANSPORT EXPRESS ........................................................................................................ TM1-76
PORT OF LOS ANGELES (POLA) AND PORT OF LONG BEACH (POLB) ....................... TM1-77
SOUTHERN CALIFORNIA ASSOCIATION OF GOVERNMENTS (SCAG) ......................... TM1-79
WEST COAST CORRIDOR COALITION (WCCC) ............................................................. TM1-80
INTERNATIONAL WAREHOUSE LOGISTICS ASSOCIATION (IWLA) ......................... TM1-81
UNION PACIFIC .................................................................................................................. TM1-84
BURLINGTON NORTHERN SANTA FE RAILROAD (BNSF) ............................................. TM1-85
AUTOMOBILE CLUB OF SOUTHERN CALIFORNIA

(AMERICAN AUTOMOBILE ASSOCIATION, AAA)

Location: Teleconference

Attendees:
Steve Finnegan, AAA
Hamid Bahadori, AAA
Jesse Glazer, Federal Highway Administration, FWHA
Melissa Hewitt, Kimley-Horn and Associates, KHA

The purpose of this meeting was to discuss the relationship between trucks and passenger vehicles on roadways in the Gateway Cities subregion and in Southern California, and to solicit input on transportation needs identified by AAA in the Gateway Cities subregion.

AAA’s involvement with the private goods movement industry is filtered through public agencies related to goods movement, for example, AAA is involved with I-710 advocacy. AAA’s concerns with the trucking industry include:

- Mobility;
- Safety; and
- Fairness, taxing truck drivers similarly to other vehicle drivers.

The following are key talking points identified by AAA as needs and gaps related to goods movement in Southern California:

- The primarily challenge of expanding utilization of ITS technologies in the trucking industry is the partnership between the public and private sectors, including the politics and policies included in ITS implementation.
- There needs to be two-way communication between the government and truckers where the government receives information from the trucking industry and also gives information to the trucking industry.
- There is a need for specific ITS funding to be allotted for operations, maintenance and upgrades to existing ITS systems.
- The Ports of Los Angeles and Long Beach need “truck metering” to monitor the truck flow at the Ports. The data collected from the truck metering can be used to quantify the infrastructure and ITS demand within the Ports and surrounding area.
- Lanes designated as “Truck only” drive lanes are successful in mitigating traffic flow and need to be expanded, including the addition of more lanes and along more freeways.
CALIFORNIA HIGHWAY PATROL, CHP

Location: Teleconference

Attendees:
Chief Deputy Vartar, CHP
Jesse Glazer, Federal Highway Administration, FHWA
Tom Gunther, CHP
Steve Vaughn, CHP
Alyssa Phaneuf, Kimley-Horn and Associates, KHA

Two projects were identified in the Gateway Cities subregion as having an impact on the Gateway Cities ITS Integration Plan: Commercial Vehicle Information Systems and Network (CVISN) and PrePass. The following are key talking points captured in this meeting regarding these federal and state projects:

Commercial Vehicle Information Systems and Networks (CVISN)

- CVISN is a national initiative.
- CVISN are ITS information system elements that support Commercial Vehicle Operations. CVISN includes information systems owned and operated by governments, carriers, and other stakeholders.
- CVISN is currently being used, but operates to a limited degree. Need data sharing to occur at a federal level to have a “master plan”, currently it operates at a state level.

PrePass

- PrePass is a statewide program.
- PrePass is an automatic vehicle identification (AVI) system allows the vehicles to bypass weigh stations, port-of-entry facilities, and agricultural interdiction facilities, if the vehicle is registered with the program.
- Benefits of the PrePass system include greater efficiency and safety for the trucking industry and highway users by allowing cleared vehicles to continue traveling at highway speed and eliminating the need to stop.
- The PrePass steering committee, Board of Equalization (BOE), Caltrans and California Highway Patrol (CHP), meets three times a year to discuss PrePass operations and management.
- The PrePass committee is developing general criteria for PrePass including standard requirements and current Biannual Inspection of Terminal (BIT).
- PrePass information is updated regularly and runs real time checks and outputs signals to trucks informing them to pull into facilities. Data information at the inspection facilities is networked directly through CHP.

The following are key talking points identifying needs and gaps in the Gateway Cities area:

- There is a need to understand truck travel pattern information in order to properly and effectively plan and construct truck inspection sites.
- A small percentage of trucks have enrolled in the PrePass system; there is a need for more participation in the PrePass system to maximize the benefits of the system. There are greater benefits for larger fleets.
- Building inspection facilities with multiple applications/technologies needs to be a priority in infrastructure expansion. For example, inspection facilities need to also include weigh-in-motion systems.
- I-710 is a possible location for an additional inspection facility. Since local residences (i.e., City of Carson) oppose this, an alternative location for the truck facility would be on the Port property.

- A possible solution to overcoming proprietary issues preventing private agencies from sharing data with public agencies is to give tax credits to trucking companies using uniform technologies shared by all vehicles.

- There is a need for a **scanning system, instead of virtual weigh-in-motion (WIM)**, so that tracking information can be processed more quickly. There are only a few operating virtual WIM systems and they are limited in the information that they process, which is typically only weight and PrePass clearance. A scanning system would track valid credentialing and monitor hours of operations.
The following are key talking points of ongoing projects related to the Gateway Cities subregion:

- Caltrans has upgraded the digital Highway Advisory Radio (HAR) which is a broadcasting system that disseminates real-time traffic information to motorists. Traffic information utilized by HAR includes: incident management, emergency management, congestion information, planned construction, planned road closures and special events.
- Non-intrusive technology is being used for temporary detection at construction sites.
- There is no control of neighboring Caltrans District’s field elements. Communication between neighboring districts is entirely by phone.
- Siemens proposed a license plate reader for the Advanced Transportation Management Information System (ATMIS) project, but it is not currently being pursued by Caltrans.
- Ten existing cameras at the Port of Los Angeles are only for Homeland Security; there is no Caltrans access to them.
- Caltrans is working to link data collection from field devices including Advanced Transportation Management Information System (ATMIS), Closed-Circuit Television Cameras (CCTV), Changeable Message Signs (CMS), etc to communicate with the proposed 511 system.

The following needs and gaps were identified by Caltrans, as related to goods movement, in the Gateway Cities subregion:

- There is a need for a dedicated ITS funding source.
- District 7 would benefit from having direct communication connections to other districts. District 7 has no control over other Districts’ field elements; for example, there is a fiber link along the I-210 being operated by District 8 that is not sharing data with District 7.
- Caltrans would like a direct connection with the Ports’ data network. Currently, District 7 has limited control to the Ports, and is connect with the Ports’ data network through Regional Integration of ITS (RIITS).
- Update the RIITS architecture to reflect current operations.
This meeting was convened to solicit input of ITS applications utilized in projects similar to the Gateway Cities ITS Integration Plan. The following are key talking points identifying a sample of projects:

**Credentialing**
- Provided locally by the California Highway Patrol
- Need additional enforcement staff at the CHP
- Federal Motor Carriers also assist in developing the credentialing process.
- Commercial Vehicle Freight Movement (CVFM)
- Steve Vaughn (head of the ITS America Committee) is a good contact. He is interested in working with a freight committee.

**Related/Similar Projects**
- Jesse has contacts who can provide information on international projects/ports similar to the Ports of Long Beach and Los Angeles
  - Shanghai
  - Hong Kong
  - Amsterdam
- US Department of Transportation
  - Has a working group investigating long-term solutions to freight movement problems
  - There is a focus on improving conditions in Southern California (Secretary Mineta specifically mentioned this)
  - The approval process for freight movement solutions is being expedited
  - ITS should be embraced more actively when seeking solutions to freight movement problems
  - USDOT is looking at solutions National (e.g. CVISN), but also investigating solutions that can be applied locally
- I-95 Corridor Coalition
  - Created to facilitate freight movement projects and studies
- West Coast Coalition/Waterfront Coalition
  - At the 21st meeting in Washington DC, Jeff Secrist discussed the need to increase the efficiency of the supply chain
• Electronic Freight Management System
  - Indicates efficiency of the supply chain and predicts a couple of steps ahead so parties may manage their resources more efficiently
  - It is effective for drayage operations at the ports, short distance shipping on trucks, and coordination of drayage

• Kansas City Cross Town Improvement Project (C-TIP)
  - A working group (government and industry sector agencies) was created, and still operates, to improve productivity of intermodal workplaces through technology
  - Components to the C-TIP include:
    • Intermodal Exchange (IMEX) – portal that manages rail line, truckers and facility operators
    • Wireless Drayage Updating (WDU) – wireless technology that provides an interface between drivers and dispatchers
    • Chassis Utilization Tracking (CUT) – portal that manages chassis fleet
This meeting was convened to solicit input and recommendations from the I-95 Corridor Coalition as related to goods movement in the Gateway Cities subregion.

The I-95 Corridor Coalition is an alliance between multi-state, multi-jurisdictional interagencies that work together to address transportation management and operations issues. The coalition includes state, regional and local transportation agencies, law enforcement, toll authorities, rail and port organizations, planners and other related organizations. Its area of interests spans from Maine to Florida and has recently expanded to Georgia.

The I-95 Corridor Coalition began by researching ITS technologies and promoting ITS projects. In the second phase of development, the coalition began to focus more on operations and management. The third phase of development included planning policy, and recently the coalition has been involved in incident management and enforcement. Funding for the coalition is from federal ITS Application earmarks. The coalition covers area from Maine to Florida, therefore focuses on long distance travel, 200+ miles of travel, and interstate issues.

The following are key talking points identifying needs and gaps in the Gateway Cities area:

- An appointment system can have expanded applications including providing traveler information, commercial vehicle enforcement, and security issues. It can also be used to link information between states and county inspection sites which would move inspection data into real time to avoid multiple inspections.
- Terminals operators hesitate to use an appointment system because the profit margins are small. To encourage the appointment system, incentives such as giving identity cards to trucks to ensure faster, effective inspections can be used as leverage.
- Business decisions are based on types of freight being carried. For example, hazardous materials (HAZMAT) materials vs. containers or dry goods vs. refrigerated loads make different decisions in terms of parking or use of idling air programs. Specific freight being carried influences different interests in traveler information, i.e., weather, delay times, road conditions, and construction delays.
- To better involve private industry and the trucking industry, it is important to show near-term solutions and benefits, more effective operational activities, credible promises in real time, profitability, and benefits of ITS technologies. Truckers don’t want to pay for traveler information. Also, the limited embracement of ITS technologies by motor carriers is due, to a large part, to lack of understanding of ITS and its benefits.
- There is a need to understand how the trucking industry operates, including how truckers are paid. Pay is based on loads and reliability for on-time arrival.
- Personal devices delivering traveler information to truckers is a valuable communication tool. Hands-free devices are necessary for safety.
LOS ANGELES COUNTY DEPARTMENT OF PUBLIC WORKS (LA COUNTY DPW)

Location: LA County Department of Public Works
900 S. Fremont Ave
Alhambra, CA 91803

Attendees:
Jane White, LA County DPW
Ron Castenada, LA County DPW
Melissa Hewitt, Kimley-Horn and Associates, KHA

This meeting was convened to solicit signal operation information for the cities that make up the Gateway Cities subregion.

Los Angeles County Department of Public Works identified that there are three levels of signal operations within the cities making up Gateway Cities; (a) cities that operate their own signals within city limits, (b) signals that Los Angeles County operates, (c) signals that Santa Fe Springs will operate, and (d) cities that currently lack a signal operation system. The cities’ level of signal operation is further outlined below:

A. Cities that operate their own Signals
   - Long Beach- also operates Signal Hill’s
   - Compton*
   - Downey
   - Norwalk
   - Vernon*
   - Commerce
   - South Gate*

* Systems are proposed, but not deployed

B. Proposed LA County operated signals
   - Lynwood
   - Bell Garden
   - Cudahy
   - Bell
   - Huntington Park
   - La Mirada
   - Maywood

C. Proposed Santa Fe Springs operated signals
   - Santa Fe Springs
   - Bellflower
   - Pico Rivera
   - Paramount
D. Cities with no proposed signal operation

- Lakewood
- Artesia
This meeting was convened to solicit input and recommendations to move the Gateway Cities ITS Integration Plan forward and expose possible solutions to alleviate the current traffic congestion.

Randy Rogers is a liaison to the Southern California Gateway Initiative in Long Beach. He monitors port conditions and customers involved with the Ports and then reports directly to the Secretary of Transportation and the U.S. Maritime Administrator (MARAD). MARAD’s goods movement focus includes various modes of goods movement except for aviation. ITS has the potential to improve the current business and infrastructure to operate at higher levels of efficiency.

The Gateway Initiative is the implementation of the Gateway office that holds the Department of Transportation Team focused on the movement of goods through Southern California. The team identifies infrastructure and ITS solutions to the issues facing the goods movement industry.

The following are key talking points captured in this meeting:

**Reservation/Appointment System**
- Currently a reservation/appointment system exists at the port terminals. Since goods movement is so dynamic and complicated, goods movement information changes on a daily, even hourly time schedule. This element of goods movement makes it difficult to use an appointment system that is not equally as dynamic and easy to use.
- An appointment system is beneficial to truckers to create a quicker and more effective turn-over trip rate which equates to a higher number of trip loads for truckers.
- There is a need for system education and making the systems user-friendly so terminal operators and truckers utilize the reservation/appointment systems.
- The reservation/appointment system needs to be accurate and trust-worthy to provide timely information.

**Virtual Container Yard**
- Virtual Container Yard is a program that allows truckers to identify empty containers (or any other equipment) and match them with trucks who would conveniently be able to move them based on their trip/destination schedule without having to make independent trips.
- Virtual Container Yard information is needed electronically so that information can be disseminated in real-time. An electronic element would have the potential to process information/paper-work required for load drop-off and pick-up at a higher/electronic level.
- Virtual Container Yards allow for effective company-to-company communication.
Inter-Agency Communication

Currently, multiple agencies generate solutions to good movement issues. There is no over-arching agency that combines all goods movement efforts. There is a need for leadership and coordination on both the public and private sector sides of goods movement issues.
Los Angeles Metropolitan Transportation Authority, Metro

Location: 1 Gateway Plaza
Los Angeles, CA 90012

Attendance:
Ernest Morales, Metro
Peter Liu, Metro
Karen Fleming, Metro
Alyssa Phaneuf, Kimley-Horn and Associates, KHA
Diana Turlik, KHA

Metro identified the need for the development of a sub-architecture to be specific to goods-movement that can be integrated into RIITS.

Three projects are identified as having a critical impact in the Gateway Cities area and to the Gateway Cities ITS Integration Plan, the Regional Integration of Intelligent Transportation Systems (RIITS), the Caltrans Advanced Traffic Management System (ATMS) and the 511 System. The following are key talking points captured in this meeting regarding these Metro projects:

Regional Integration of Intelligent Transportation Systems (RIITS)

- The Regional Integration of Intelligent Transportation Systems (RIITS) is a network that has been developed for the County of Los Angeles sponsored and operated by the Los Angeles County Metropolitan Transportation Authority (Metro).
- RIITS collects information on the operations of roads, transit, ports and airports. This network of data sharing is valuable to travelers, truckers, emergency services and all agencies and parties who travel in the Los Angeles County. This network alliance is valuable for operations and planning purposes.
- RIITS has integrated the Caltrans D7 Advanced Traffic Management System (ATMS), including 1200 system detectors, 100 cameras (to increase to 300 in 6 months), 100 changeable message signs, ramp metering, and incident data, with information updated every 60 seconds from Caltrans and CHP.
- The RIITS Network has also integrated with Metro’s Advanced Traffic Management System (ATMS), LADOT’s advanced signal system, and is currently in the process of interfacing with key transit agencies in Los Angeles County.
- Caltrans District 8 and District 12 are partnering with FHWA to plug into RIITS using Extensible Markup Language (XML).
- RIITS is interfacing with IEN, using XML, by the end of this fiscal year.
- RIITS provides data collection information to 18 ISPs in the Los Angeles area; data communications disseminating this information include PDAs, television, and radio. A real-time traffic map is available on Metro’s webpage, metro.com.

511 System

- By 2008, LA Safe plans to launch the LA 511 phone and web system. RIITS will be a primary data feed to provide real time traffic information.
TRANSPORT EXPRESS

Location: Transport Express

Attendance:
Patty Senecal, Transport Express
Jerry Wood, Gateway Cities COG
Melissa Hewitt, Kimley-Horn and Associates, KHA

This meeting was convened to develop an understanding of the trucking industry including shipping, warehouse, and distribution and to understand how current transportation projects are meeting trucking needs and to collect additional needs from trucking companies.

The goal of the Gateway Cities ITS Working Group is to develop a master plan that moves freight quicker, safer and at a higher efficiency. Current goods movement projects and solutions are not ample for goods movement within Southern California. Existing rail lines operate at capacity constraints.

The following are key talking points of needs identified at this meeting:

- It is essential to have a **public-private alliance to improve the goods movement industry in the gateway Cities area**. There needs to be an involvement from industry, such as, technical reps, local reps, and operators, to represent the needs of the trucking industry and there needs to be public agency representatives to create practical goods movement policies.
- Need to involve the trucking industry including; Academia, Rose Institute, Actual Importers or representative group, beneficial cargo owners, in traffic congestion issues.
- A new corridor, specifically for freight movement, is a possible outcome in developing a better, safer, and faster goods movement industry.
- The Southern California region needs to **look to international projects that could be applied to the San Pedro Ports** to be competitive with other goods movement areas such as the Panama Canal and the ports of Mexico.
- There is a need for **goods movement projections to have the capacity to model a variety of impacts**, including Port, transportation, and congestion projections, so that these variables can be appropriately addressed.
- **Traffic data needs to have the ability to be disseminated at real-time** so that the trucking industry can make business decisions in terms of delivery delay.
- There is a need to have **data sharing between CHP and trucking agencies** to extract tracking data of stolen goods.
PORT OF LOS ANGELES (POLA) AND PORT OF LONG BEACH (POLB)

Location: Port of Long Beach
925 Harbor Plaza
Long Beach, California

Attendance:
Kerry Cartwright, POLB
Sue L. Lai, POLA
Guillermo Martinez Jr., POLA
Tom Choe, System Metrics Group, Inc.
Melissa Hewitt, Kimley-Horn and Associates, Inc. (KHA)
Jack Peng, KHA

This meeting was convened to verify the status of on-going and planned ITS and transportation projects at the Ports of Los Angeles and Long Beach, and to solicit input, including needs and gaps identified by the Ports of Los Angeles and Long Beach.

Caltrans’ Advanced Traffic Management System (ATMIS) documentation includes an updated Concept of Operations and the Conceptual Design, which outlines operations and standards. ATMIS will share data with trucking companies and other related private sector stakeholders using the following:

- Changeable Message Sign (CMS);
- Highway Advisory Radio (HAR);
- Cellular phone messaging, and e-mail; and
- Data link to both e-Modal and Voyager.

The POLB also plans on evaluating the feasibility of using e-Modal to disseminate terminal information to other systems such as ATMIS and Regional Integration of ITS Network (RIITS) since stakeholders have indicated they would use these systems to get terminal information. Furthermore, the proposed 511 system deployment can potentially pull everything together in terms of regional data sharing efforts.

The planned ITS deployments on I-710 south of I-405 are scheduled to be implemented within 2 to 3 years, which includes a combination of various types of sensors, and loop detectors. The data collected from the proposed sensors will be connected directly to Caltrans. Traffic data on I-710 north of I-405 will come from RIITS. The Ports will also pull other traffic data from the feeds of Performance Measurement System (PeMS) or ATMS directly. Alternative technology such as GPS in cellular phones is currently being evaluated by Nextel; however, the data source is most likely not going to be available for free.

Closed-Circuit Television Cameras (CCTV) video is only available from local streets around the ports. CCTV video is not utilized along the 710 because the sunlight glare causes two hours of missing monitoring window per day. Small-version Changeable Message Signs (CMS) will be deployed instead of the large overhead CMS to enable deployments at more strategic locations for information dissemination.

There has been no decision made on the deployment of Radio Frequency Identification (RFID) tags (active) as well as the truck-exchange programs. PierPass is currently adopting passive RFID tags, which have a limited communication radius. OCR technology is not feasible on freeways due to privacy concerns. OCR is only adopted at the terminal gates during entrance and exit. However, OCR is still an immature technology in tracking the cargoes effectively at the Port terminals.
POLB is considering innovative solutions such as an incident management program for I-710, which may encompass alternate route plans and smart corridor initiatives on other adjacent arterials. However, the Port of Long Beach currently has no available funding for such initiatives.

Other major projects in the Port area include Los Angeles County’s arterial ITS deployments and automated vehicle classification system. There are currently two technologies being considered for the vehicle classification process:

- Motion strips embedded under the pavement
  - Highly accurate, but a very sophisticated system
  - Low availability due to the requirement of frequent maintenance efforts
- “Computer boxes” connecting directly to the existing loop detectors
  - Classification algorithm based on measuring the axels of passing vehicles
  - Accurate on vehicles over 45 ft. in length, according to Caltrans
  - Caltrans has purchased six units and will deploy them within six months
The Southern California Associations of Governments (SCAG) is a Metropolitan Planning Organization consisting of six counties: Los Angeles, Orange, San Bernardino, Riverside, Ventura, and Imperial. SCAG is authorized by the federal government to research and plan for transportation, growth management, hazardous waste management, and air quality. Bob Huddy, part of the Planning and Policy Department, identified critical good movement needs in the Gateway Cities area.

The following are key talking points identifying needs and gaps in the Gateway Cities area:

Data Collection along I-710

- There is a need for **reliable truck counts and time series data along the 710** to measure change in truck traffic volumes.
- **Data collection needs to be goods movement specific and detection should differentiate between various truck sizes.**
- Data collected could be used to create theoretical truck models using SIC codes. This data collection could be downloaded and tracked changes to a website to obtain real time data information.
- **Multi-function ITS technologies are preferred** to allow for high communication and detection to prevent collisions.

Uniform Security Measures

- There is a need to **develop uniform standards and regulations for both on-dock and off-dock facilities.**
- There is a need for **uniform compliance and safety policies,** such as, electronic credentialing. This will be more effective and time efficient for truckers when traveling through the ports or weigh-in-motion stations.
- Trucks should have **enforced black boxes with speed differentials to control flow rates and accident management.** Speed differential is currently being use along the I-5 in the Central Valley, where the truck speed limit is 55 mph.

ITS Architectures

- **Stakeholders need to take an active role to integrate and take responsibility for ITS Architectures.**
- **ITS Architectures need to specifically identify new user services and functional channels of communications and communication agreements that are goods movement specific.**
- There is a **need to educate the general public and the goods movement industry on ITS systems and applications** to promote safety and understanding of ITS benefits.
WEST COAST CORRIDOR COALITION (WCCC)

Location: Oakland

Attendance:
Glenn Pascal, WCCC
Jerry Wood, GCCOG
Melissa Hewitt, Kimley-Horn and Associates, KHA
Blair Marsden, KHA

This meeting was attended by Melissa Hewitt and Jerry Wood to introduce the Gateway Cities ITS Integration Plan and solicit input from West Coast Corridor participations, including public and private agencies related to goods movement.

The meeting includes five presentations related to ITS applications and technologies used to improve transportation and goods movement in California. The following are key talking points identified at this meeting:

**Tri-State Traveler Information Project**

- The Tri-State Information Project promotes the integration of multi-jurisdictional data sharing and transportation communication. This high level of coordination between jurisdictions is the only solution available to improve efficient travel in the project area.
- This information project is specific to Northern California, Southern Oregon and Northwest Nevada. This project area is very rural and isolated which creates challenges for truck drivers in long distance travel, unpredictable weather and long response times to incidents and emergencies.
- This project provides the following benefits:
  - *Economic,* allowing more truck trips and higher turnover by improving data exchange and travel information to improve freight transportation.
  - *Safety,* reducing accidents and managing dangerous driving conditions due to weather by improving center-to-center communication.
  - *Traffic Management,* improving capacity and efficiency of traffic management in this region by exchanging manual, phone based communication with high-speed, automatic data exchange.
  - *Traveler Information,* improving route and itinerary decision making by proving travelers with comprehensive real time, consistent traveler information.

**Gateway Cities ITS Integration Plan**

- Gateway Cities Council of Governments is exploring the potential of ITS integration to alleviate port-related commercial traffic and improve transportation conditions in the Gateway Cities area.
- The San Pedro ports are currently handling 19 million containers per year and expect to grow to exceed operations to over 30 million containers per year.
- The private industry has concerns with data sharing and security of data when sharing logistics across companies. Weigh-in-motion and RFID tags should be required information.
- Truckers need audio command and control for information systems. Trucking companies need traveler information to connect to people and goods within real time (a threshold of 10 minutes was suggested), so that personnel may make accurate and ‘on-time’ decisions.

**Vehicle-Infrastructure Integration (VII) in California**
The goal of VII Vision program is to manage transportation in real time information to prevent vehicle collisions.

New vehicles will be sold with VII equipment based on a national standard (to ensure that national compatibility) that communicates to commercial and personal vehicles, along roadways and at intersections.

VII project is integrated at the federal, local and private agency level. Currently, in California, Caltrans, MTC, the city of San Francisco, auto industry and technical consultants are partnering together to build a “testbed” in the Bay Area.

There are three parts to the VII system;
- using DSRC to communicate roadside equipment (RSE) to traveling vehicles,
- using Backhaul network to channel network information from the RSE to a central location, and communicating data from the car to the driver.

“Smart Park” System for Trucks

California has the worst truck parking problem in the nation. Public parking lots are operating at over capacity, about two times higher than what they are designed for, while private parking lots are operating at about half their capacity.

National studies have been conducted to quantify the parking demand and issues associated with commercial truck parking by FHWA, NTSB and NCHRP. Some of these studies have been researched in depth on a state-wide level, but no study has been developed for the State of California.

These Studies were based on interviews conducted with experts in the trucking industry, trucker surveys and loop detection data collected. Gathering commercial trucking data and information is complicated since the trucking industry is not unified.

Currently, there is an on-going California Specific Study, including literature reviews, conducting interviews and focus groups, and holding stakeholder workshops.

The goals of the California Study are as follows:
- Quantify the magnitude and distribution of goods movement problems related to truck parking,
- Identify locations and corridors within California as having the most severe parking issues,
- Identify technologies used to alleviate parking concerns, and,
- Obtain stakeholder input.

Traveler Information Map Information (TIMI)

TIMI is a proposed freeway navigation system for the Pacific Northwest, providing traveler information such as traffic flow, changeable message signs, lane closures, incidents, and camera information.

TIMI provides tabs for truck traveler information, rail, scenic, bicycling, and special event updates.

This electronic traveler system available on the Caltrans website is anticipated to be active by the end of 2007.

INTERNATIONAL WAREHOUSE LOGISTICS ASSOCIATION (IWLA)

Location: Transport Express, Inc.
This meeting was convened to solicit input directly from trucking companies, including warehousing operations, in order to better understand the transportation information needs of drivers, dispatchers and the companies in the logistics industry overall that if met, could improve efficiency in their businesses and mitigate traffic impacts due to trucks in the Gateway Cities area.

Existing Conditions

- Current container terminal turn times would be valuable to dispatchers in making dispatch decisions. Getting current information about turn times would be helpful to making more informed decisions. It would be valuable to know and aggregate current turn times at the container terminals. This data could be an aggregate of all trucks in/out of each terminal (does not need to be identified per company or per truck), should be calculated on an hourly basis (i.e., does not need to be minute by minute), and needs to be provided for each container terminal separately (it would be valuable to be able to make dispatch decisions that differentiate between terminals). Geo-fencing might be a solution to collecting turn-times at the terminals and could even be used for independent companies around their own terminals (warehouses).
- Most of [the independent owner-operator companies] use eModal or Voyager.
- There are existing cameras at some gates. These are not working but gate queuing information is needed at all destinations.
- Should coordinate with clean-air act truck equipment (RFID tags) to ensure that equipment is not duplicated (use equipment already on trucks if and where possible).

Needs and Possible Solutions

- Information regarding travel conditions would need to be transmitted to both dispatchers and truck drivers in the vehicles. Currently, dispatch tells drivers where to go, making determinations of which loads to pick-up/drop-off but does not tell trucks how to get there. Drivers currently decide which route(s) to take.
- Travel information sent to vehicles needs to be proactive (i.e., sent to vehicles automatically, unlike a web site that someone needs to preempt a connection to), and preferably a voice response. Phones or in-vehicle displays are highly discouraged, given that this type of equipment can distract drivers and negatively impact vehicle safety.
Travel information should cover freeways as well as allowable arterials and needs to be minute-by-minute, provided en-route, not just pre-trip. As conditions change on the roads, drivers and dispatchers need up-to-the-minute information to be able to reroute or otherwise redirect their trips.

GPS-based data would be useful in providing data and routing suggestions based on actual truck locations; also passing truck location information back to company dispatch.

In addition to comments above, information should include:
- Road conditions
- 911/incident information (location, cause [especially fatality or other major causes that would close the freeway or significantly impact it for a long period of time; SigAlert], and estimated duration)
- Weather/fires (e.g., don’t want to send an empty container into a high wind situation)
- Construction zones
- Level of congestion at terminals and intermodal yards
- Turn times at individual terminals (note: there is an issue with lack of a common calculation/definition of “turn time”, a clearly stated definition of which was used should accompany data when provided.)
- Delays in queues leading to all gates
- Bilingual information (English and Spanish)
- Coast guard messages for major emergencies or disasters

Any routing suggestions should:
- Avoid left turn movements wherever possible
- Avoid high accident or highly congested intersections

One potential benefit to truck companies is that this type of system could show (through before and after data) “green flag” trucks to support documentation; could also be used to fill out grant applications through an automated process once this system is in place.

Another potential benefit is that this type of system could be used for planning of new strategies. Caution: when analyzing data/information or developing recommendations keep in mind that policy can impact operations. For example, when PierPass went to 6PM-to-3AM operations, trucks began lining up at 5PM to be first in line.

Inbound/long-haul trucks need information as well. One solution may be to provide this information at a kiosk at the Ontario truck and other remote truck stops to get information to inbound trucks.

All of [the independent owner-operator companies] use tracking devices. What is needed is the aggregated information from all companies (anonymously aggregated to show such things as total turn times or total real-time speeds, but not to identify any information that is specific to any individual truck or company) and the road information piece.

Information from drivers themselves may be input into the system (for example, if the system is easy-to-use and voice-activated, a driver could report construction, congestion, or incidents to be added into the road information that everyone is receiving)

It is critical that this information be kept confidential and be provided only to the truck owner. This confidentiality and anonymity of information is and will remain critical to the ongoing success of the project. It is and will remain the basis of involvement in the program by the private industry.
UNION PACIFIC

Location: Intermodal Container Transfer Facility (ICTF)

Attendance:
Jerry Wood, GCCOG
Melissa Hewitt, Kimley-Horn and Associates, KHA
Lisa Burgess, KHA

This meeting was attended by Melissa Hewitt and Jerry Wood to introduce the Gateway Cities ITS Integration Plan and understand the operations of the railroads and how it relates to the container transport.

ICTF

- **The most important piece of information that is currently missing that could improve rail operations at ICTF is to have freight specific information regarding scheduled container delivery dates/times and ultimate destinations for better operational and advance business planning for rail companies.**
- UP has set quotas per terminal per day in order to manage the containers coming into the yard. The ICTF is the bottleneck in this sense – terminal operators send as many containers as are in their quota and have an opportunity to negotiate to fit in additional containers above their allotment.
- Rail companies know only the quantities of containers (based on quotas set by the rail companies) that will be arriving each business day from each container terminal, but not which containers, when they will arrive within the day or where they are ultimately destined for.
- Trains are put together based on strict business policies driven by the ultimate destination of the containers to facilitate ease of “dropping” the destined cargo at each destination point and then quickly moving on toward the next stop.
- Trains no longer serve any destinations in the western US from the west; i.e., Salt Lake City, Phoenix, etc. are served by trucks not rail.
- There is an existing partnership between UP and BNSF in dealing with major operational issues; they work well together and do not share private business information.
- ICTF has a project pending to double the capacity of the yard on the same footprint by doubling the number of gates and stacking containers. Currently all container stay on wheels (chasses) in the yard.
- ICTF closely manages truck traffic and on-site containers through software and a scanning process at the gate. Turn times average ten minutes within the yard.
BURLINGTON NORTHERN SANTA FE RAILROAD (BNSF)

Location: Long Beach, CA

Attendees:
Chief Deputy Vartar, CHP
Jesse Glazer, Federal Highway Administration, FHWA
Tom Gunther, CHP
Steve Vaughn, CHP
Alyssa Phaneuf, Kimley-Horn and Associates, KHA

The purpose of this meeting was to introduce the Gateway Cities ITS Integration Plan and understand the operations of the railroads and how it relates to the container transport. The Hobart Rail Yard, located southeast of downtown, has capacity for approximately 1.5 million cargo containers a year. International containers account for 60% of the volume at the Hobart Rail Yard, and United Parcel Service is the largest domestic customer. The 2007 Rail Master Plan, a study by terminal operators at the Ports of Los Angeles and Long Beach, supports growing on-dock facilities, like Hobart, to help relieve truck congestion. BNSF hopes to complete a near dock facility, the Southern California International Gateway (SCIG), to relieve some of the congestion at the Hobart facility.

Hobart Rail Yard

- Trucks are mandated to have GPS on-board and to take specific routes to the facility.
- Containers arrive at the terminal where the terminal operators load them onto trucks to be taken to the rail.
- When a container arrives at the Hobart Facility, the gate operator punches in the container number to get the weigh bill, which contains the destination of the container. The gate operator directs the truck driver to the appropriate train.
- There is only one train a week to New Orleans. Terminal operators hold all New Orleans-bound containers for Mondays.
- The Hobart Rail Yard does not use an appointment system.
- BNSF is building a web-based platform for on-dock facilities.

Needs

- There is a need to know how many trucks are en-route and where exactly the trucks are. With this information, labor can be shifted to the appropriate location to most efficiently handle the containers.
- Shipping companies do not make the railroads aware of the destinations of the containers, which poses a challenge when assembling trains. If BNSF could know the destination of the containers before they arrive on-site, their business would be more efficient.
- 60% of the containers arrive between 9:00 am and 2:30 pm. There is a need the load throughout the day. One possible suggestion is to mandate that certain destinations arrive at specific times. For instance, Memphis containers must arrive between 10:00pm and midnight.